

FIG. 1A

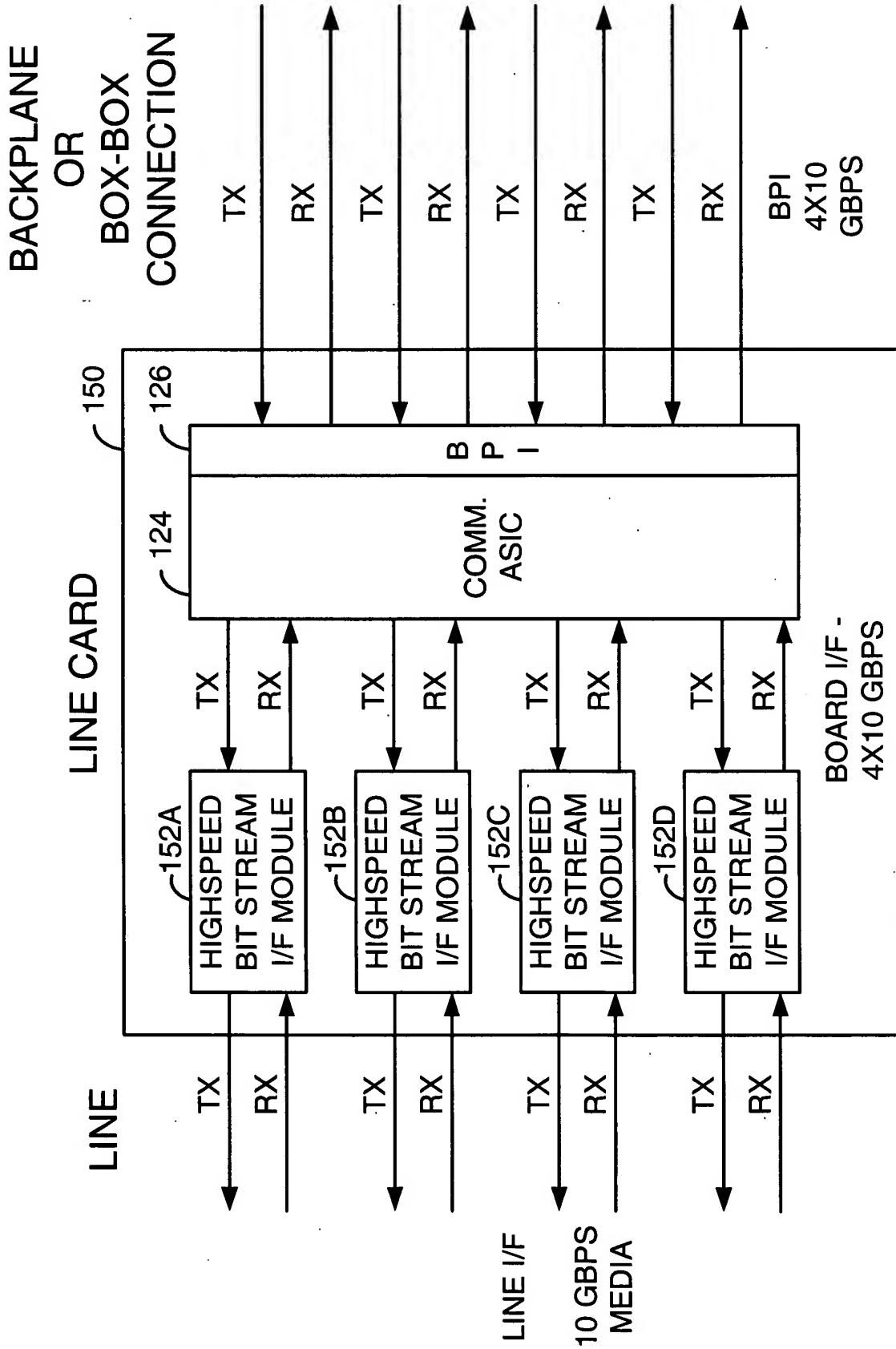


FIG. 1B

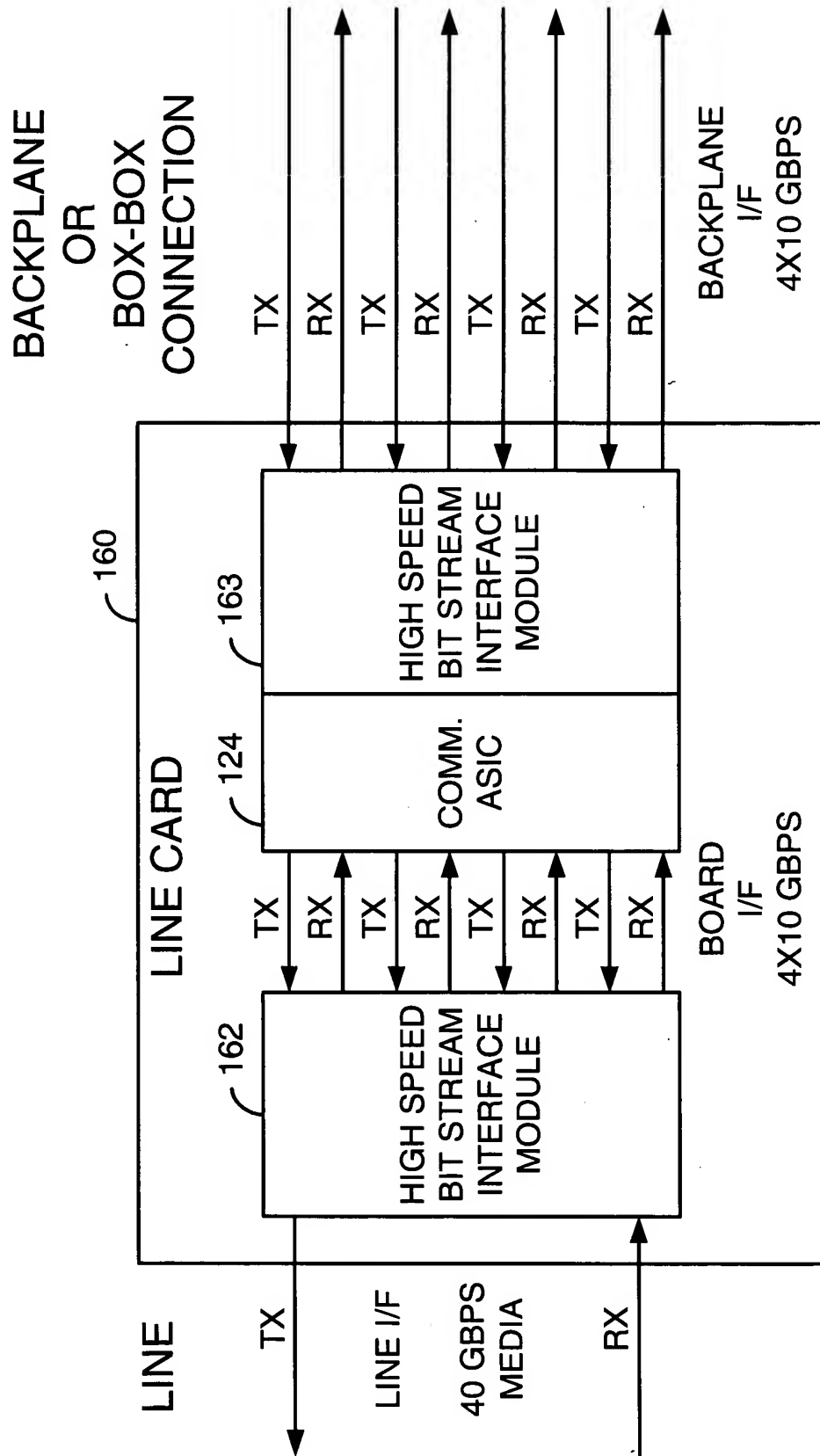


FIG. 1C

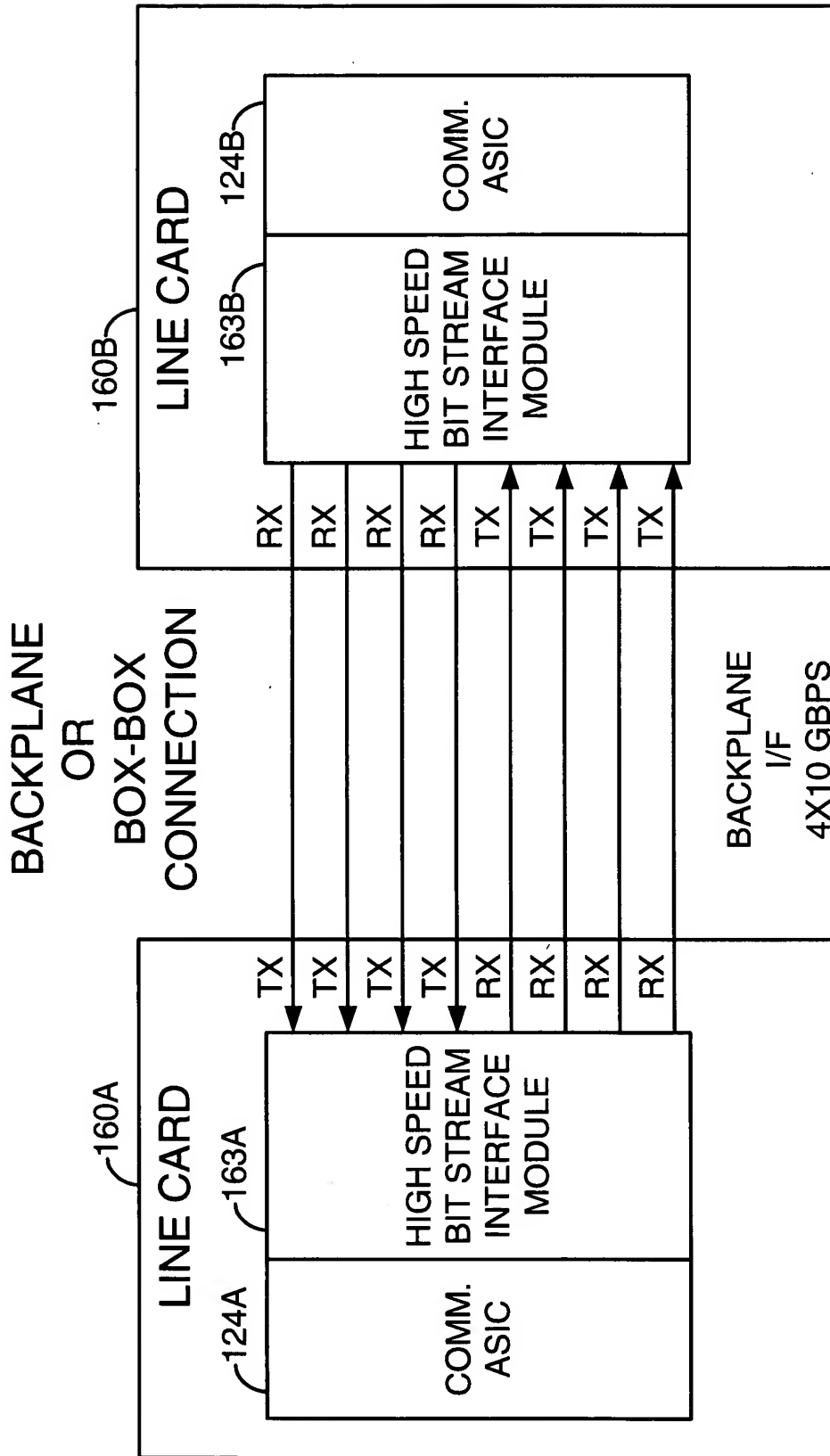


FIG. 1D

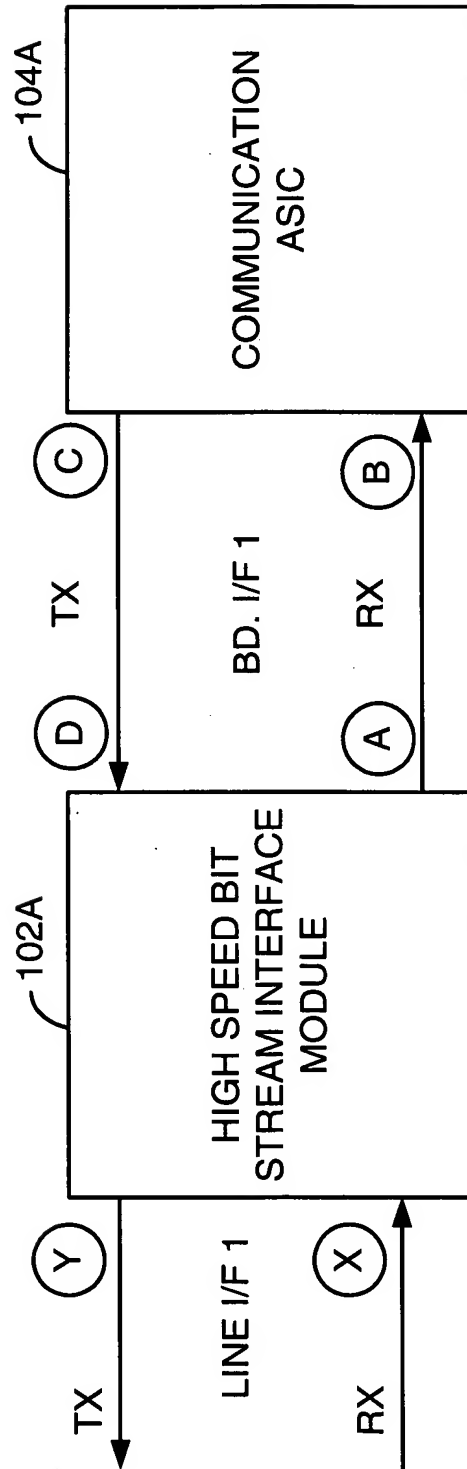
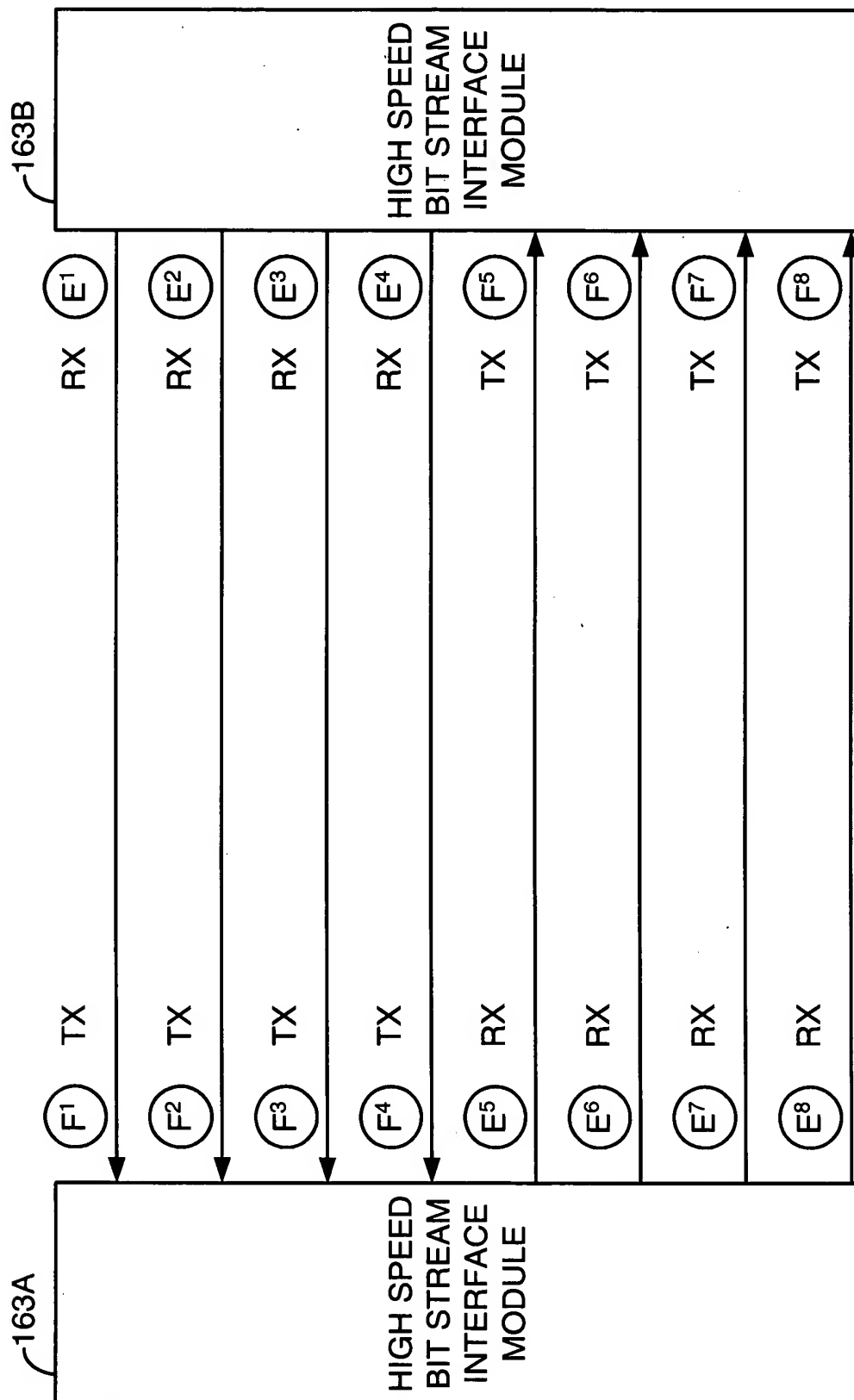


FIG. 2A

BACKPLANE OR BOX-BOX CONNECTION



6/36

BACKPLANE I/F
4X10 GBPS

FIG. 2B

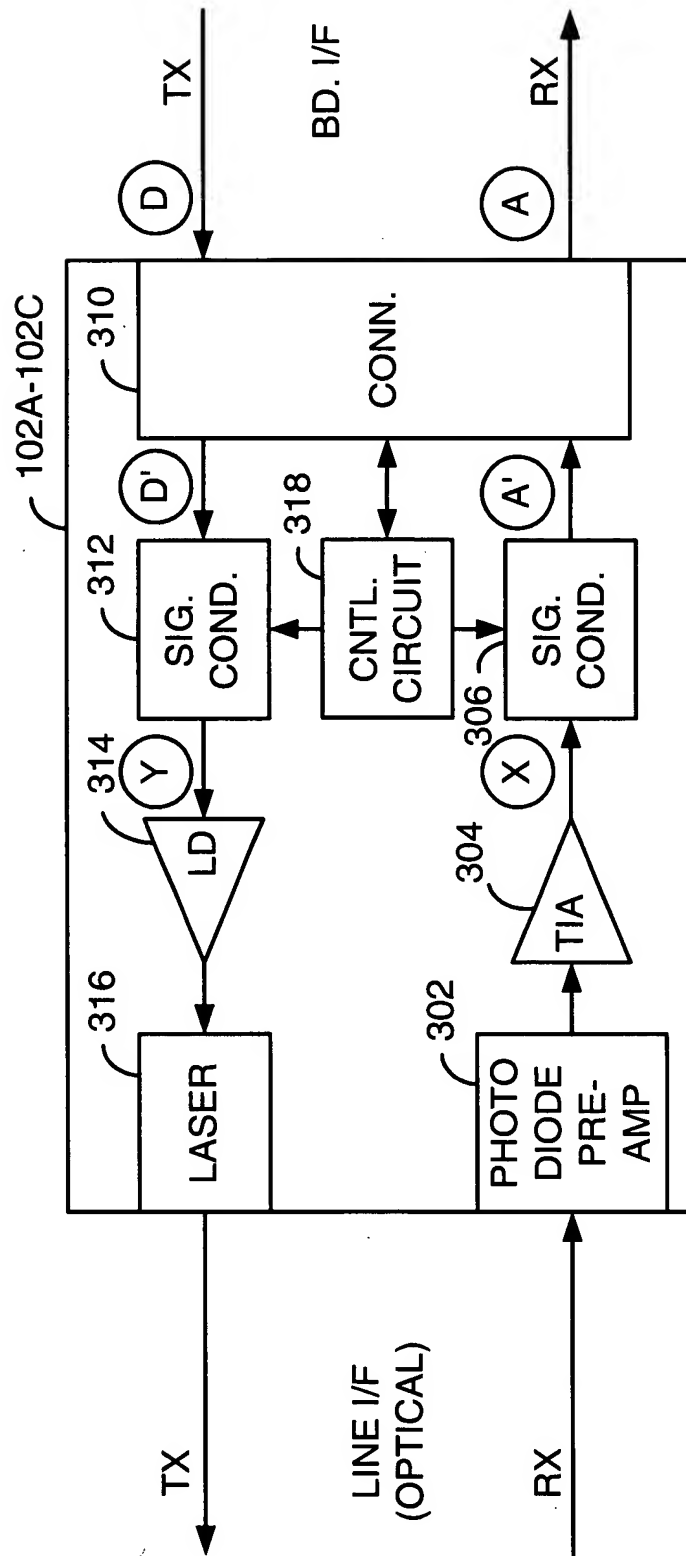


FIG. 3

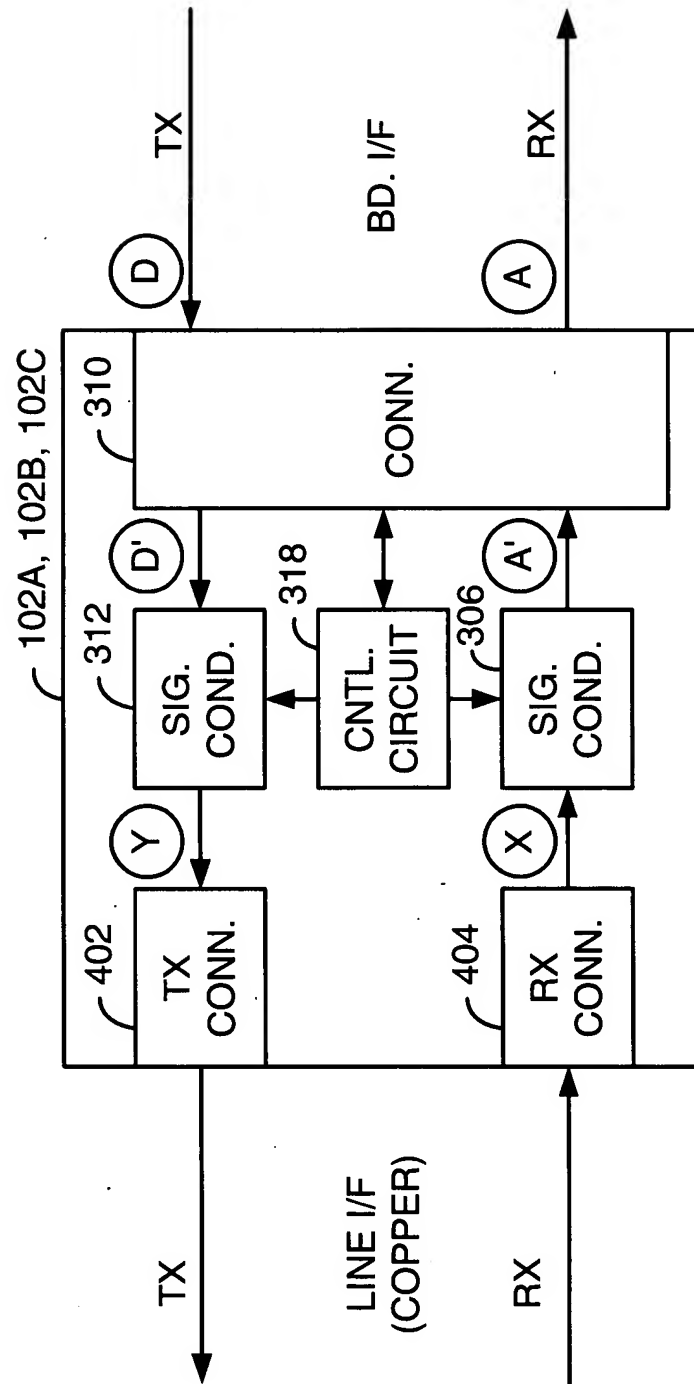


FIG. 4

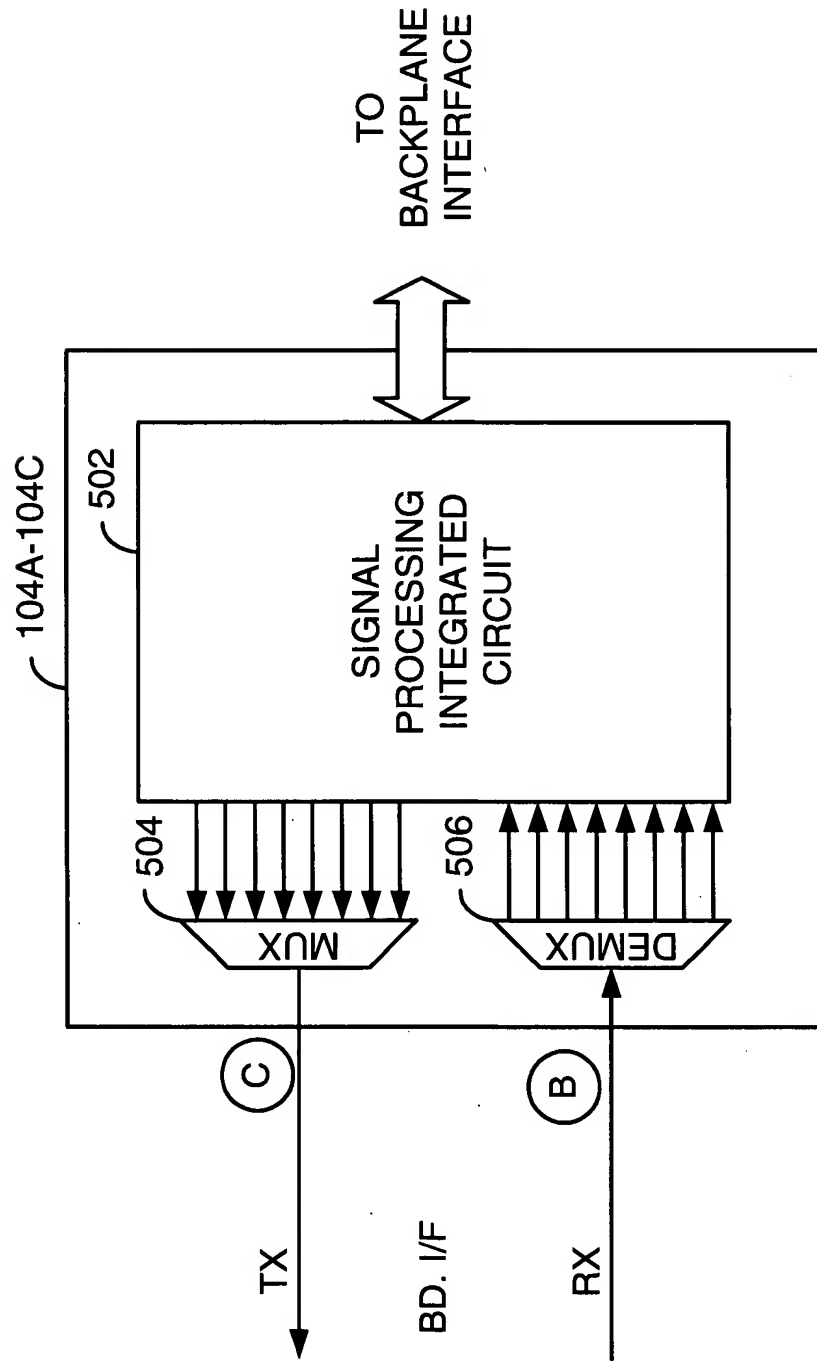


FIG. 5A

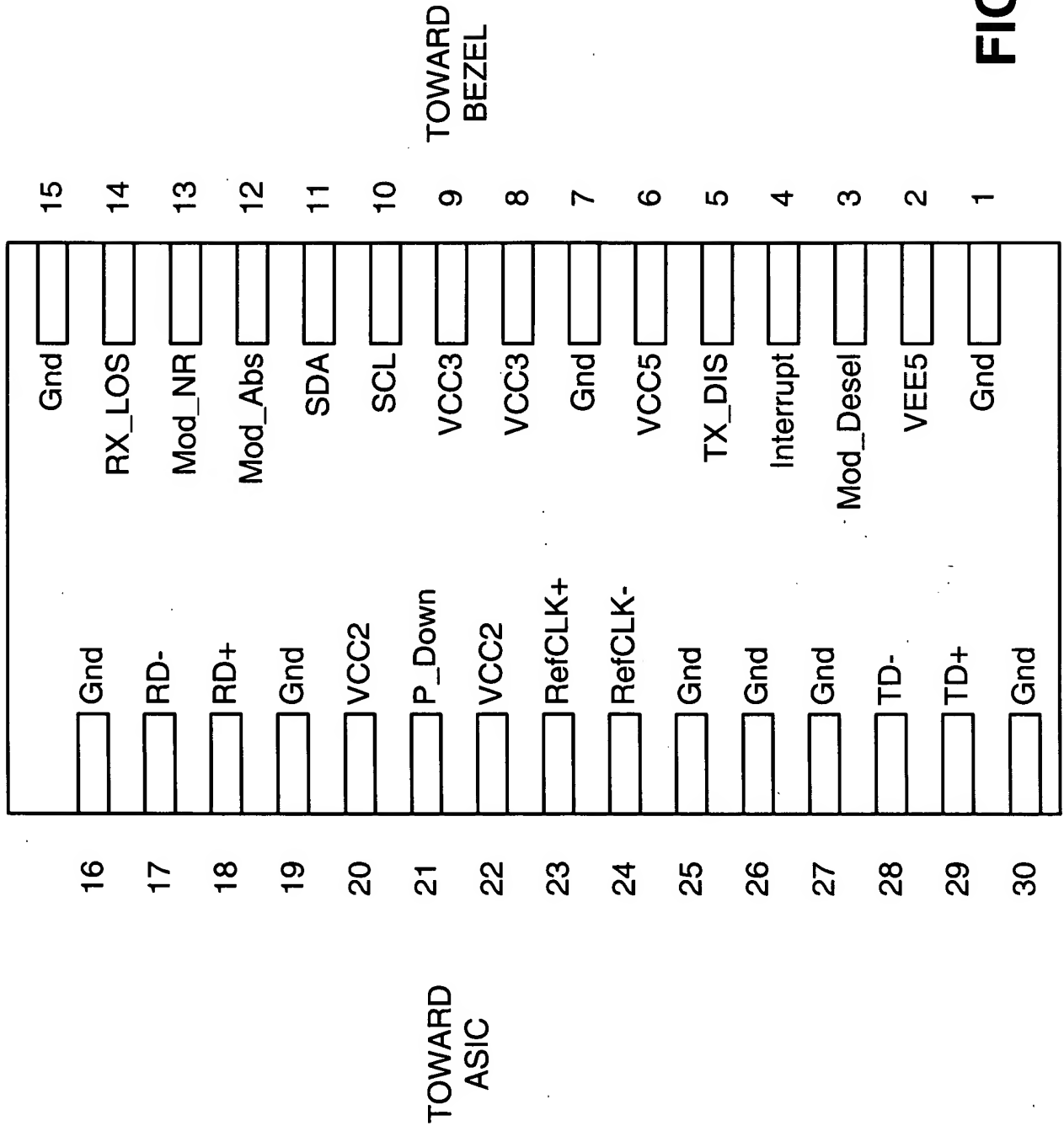


FIG. 5B

<i>Parameter (Transmitter)</i>	<i>Symbol</i>	<i>Conditions</i>	<i>Min</i>	<i>Typ</i>	<i>Max</i>	<i>Units</i>
Single Ended Output Impedance	Z_{SE}		40	50	60	Ω
Differential Output Impedance	Z_d		80	100	120	Ω
Output Impedance Match	Z_M				10	%
CML output Amplitude, Diff., p-p	ΔV_{QDO}			500	600	mV
Output Rise and Fall time (20% to 80%)	t_{RH}, t_{FH}		24	28	40	ps
Differential output return loss up	S11	Up to 7.5 GHz			-10	dB
		7.5-15 GHz			*	dB
Single Ended output return loss	S11	Up to 15 GHz			-6	dB
* $RL = -10 + 16.6 \text{ Log}(f/7.5)$						

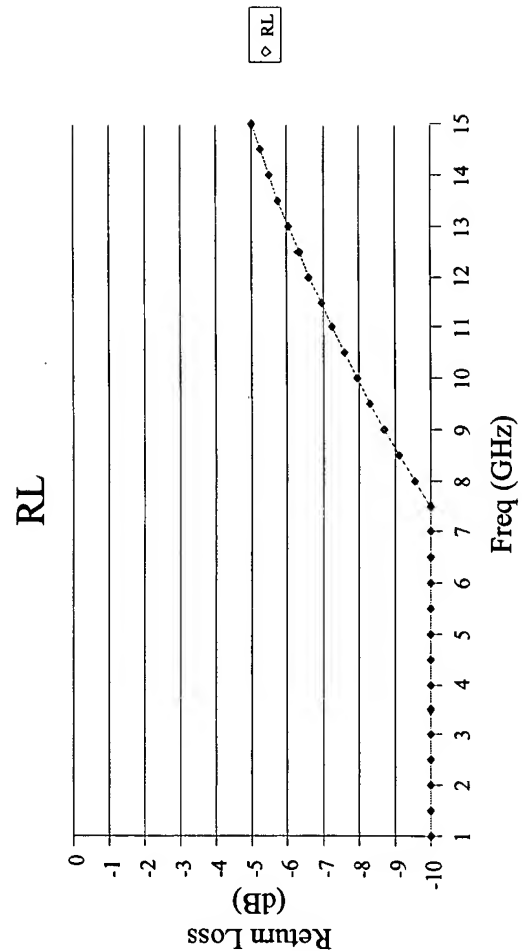
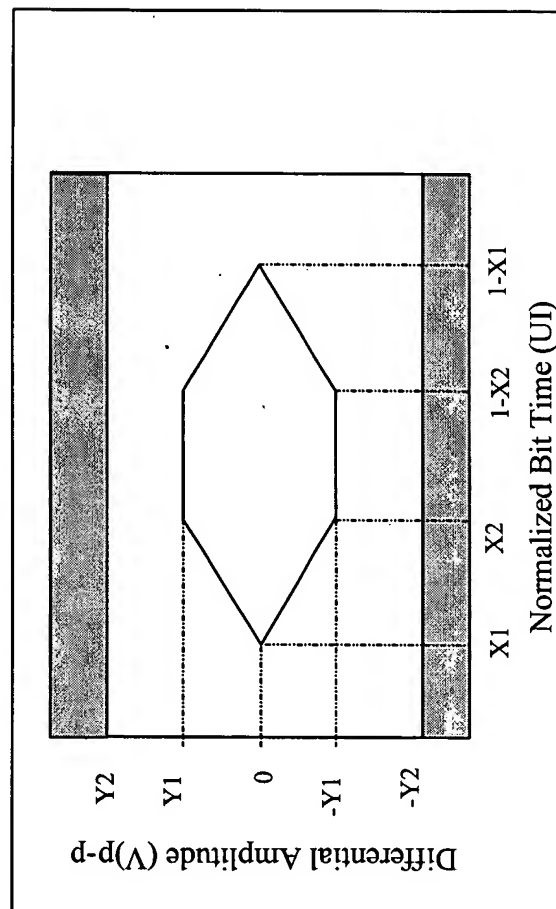


FIG. 5C

<i>Parameter (Transmitter)</i>	<i>Symbol</i>	<i>Conditions</i>	<i>Min</i>	<i>Typ</i>	<i>Max</i>	<i>Units</i>
Nominal Bit Rate	f		9.95		10.75	GHz
Deterministic Jitter	DJ	MJS/802.3ae		0.12	0.15	UI
Random Jitter	RJ	MJS/802.3ae		0.13	0.15	UI
Eye Mask	X1				0.15	UI
Eye Mask	X2				0.4	UI
Eye Mask	Y1				200	mV
Eye Mask	Y2				300	mV
SOENT Jitter (RMS)		Up to 80 MHz			10	mU

**FIG. 5D**

Parameter (Receiver)	Symbol	Conditions	Min	Typ	Max	Units
Single Ended Input Impedance	Z_{SE}		40	50	60	Ω
Differential Input impedance	Z_d		80	100	120	Ω
Input Impedance Match	Z_M				10	%
CML Input Differential Ampl., p-p	$\Delta VQDO$		125		1000	mV
Differential Input Return Loss	S22	Up to 7.5 GHz			-10	dB
		7.5-15 GHz			*1	dB
Single Ended Input Return Loss	S22	Up to 15 GHz			-5	dB

1. $RL=10 - 16.6 \text{ Log}(f/7.5)$
2. Single ended return loss is necessary for EMI.

RL

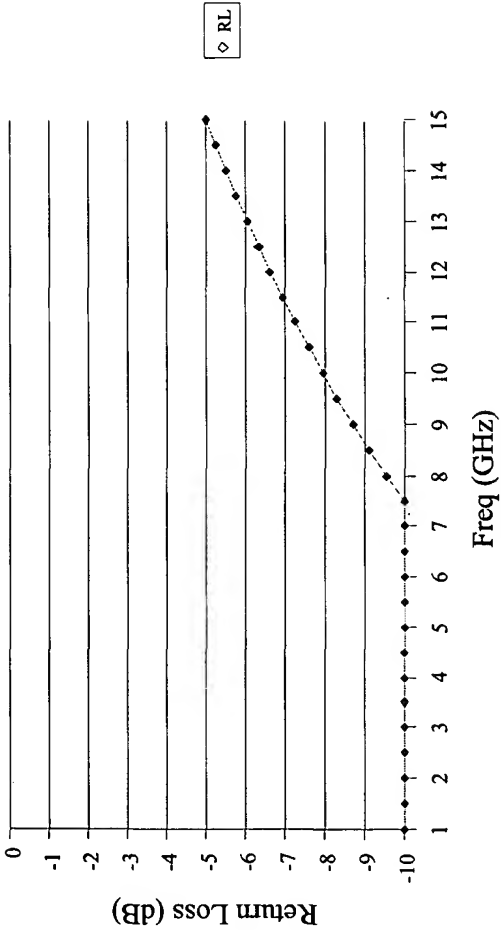


FIG. 5E

<i>Parameter (Receiver)</i>	<i>Symbol</i>	<i>Conditions</i>	<i>Min</i>	<i>Typ</i>	<i>Max</i>	<i>Units</i>
Nominal Bit Rate	f		9.95		10.75	GHz
Deterministic Jitter *	DJ	MJS/802.3ae		0.35	0.55	UI
Random Jitter	RJ	MJS/802.3ae		0.18	0.2	UI
Eye Mask	X1				0.35	UI
Eye Mask	Y1				62.5	mV
Eye Mask	Y2				500	mV
SOENT Jitter		Up to 80 MHz			30	mU
* 0.25 UI of DJ is allocated to ISI from 8" of FR4 PCB trace.						

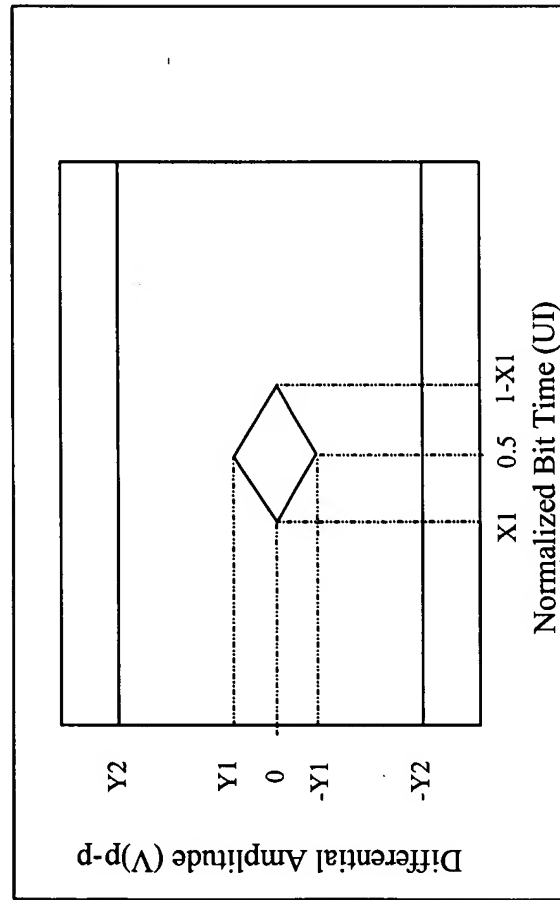


FIG. 5F

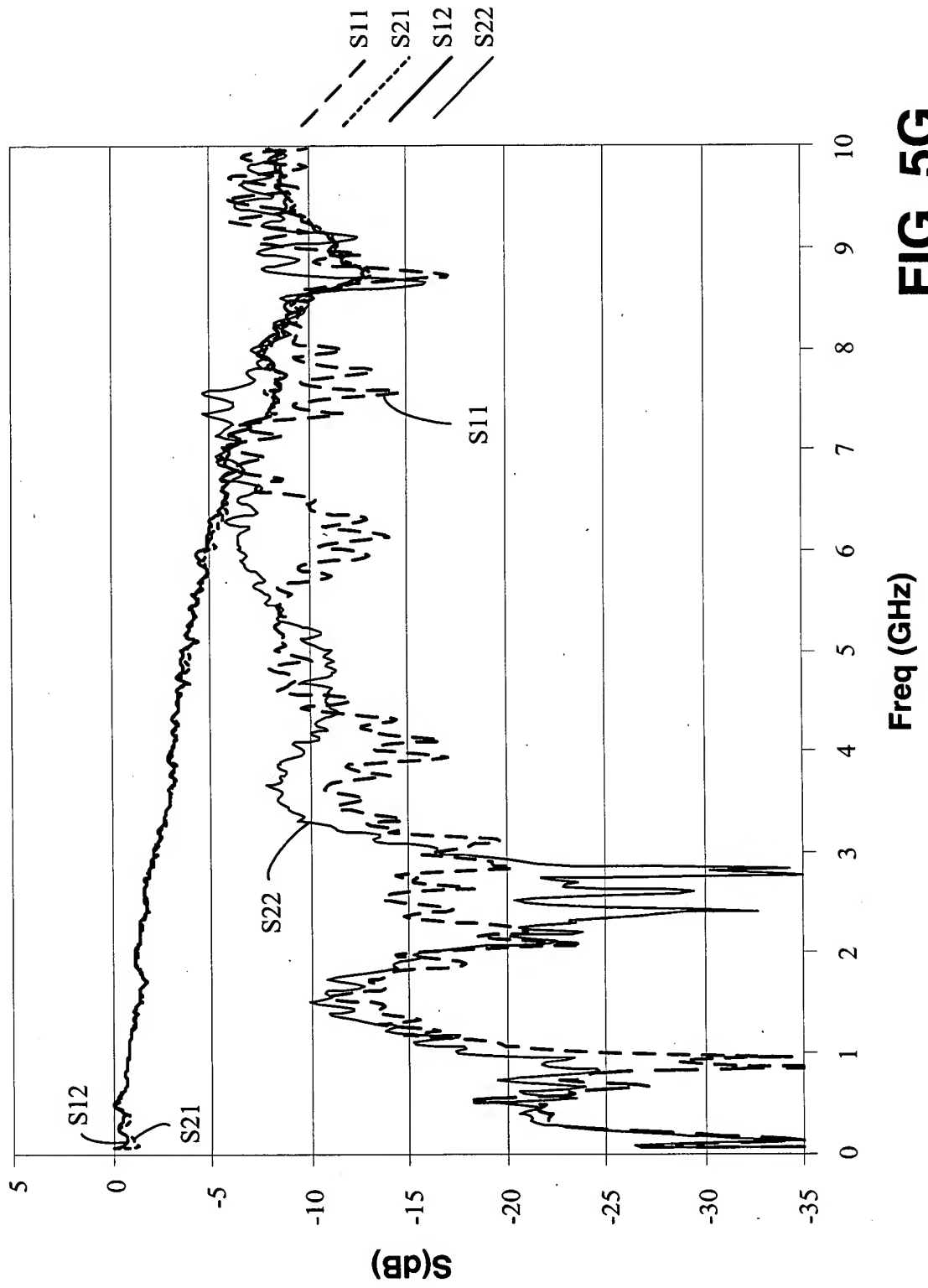




FIG. 6A

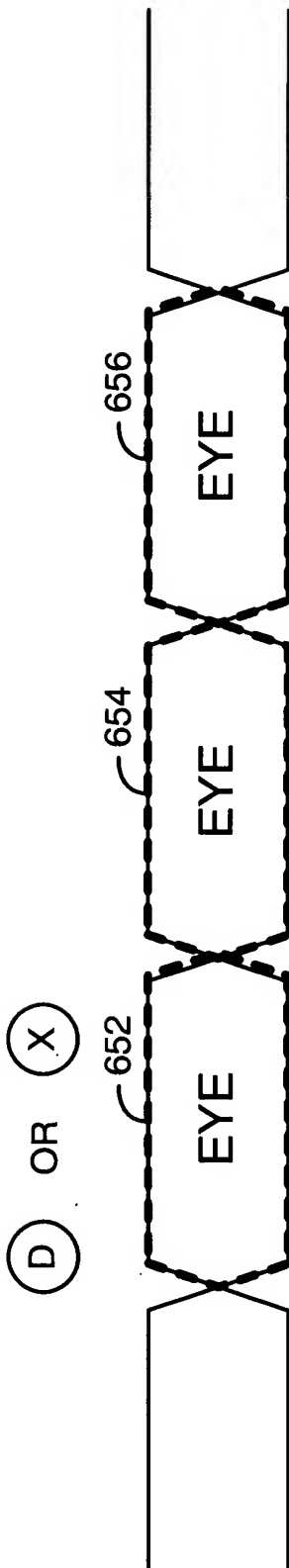


FIG. 6B

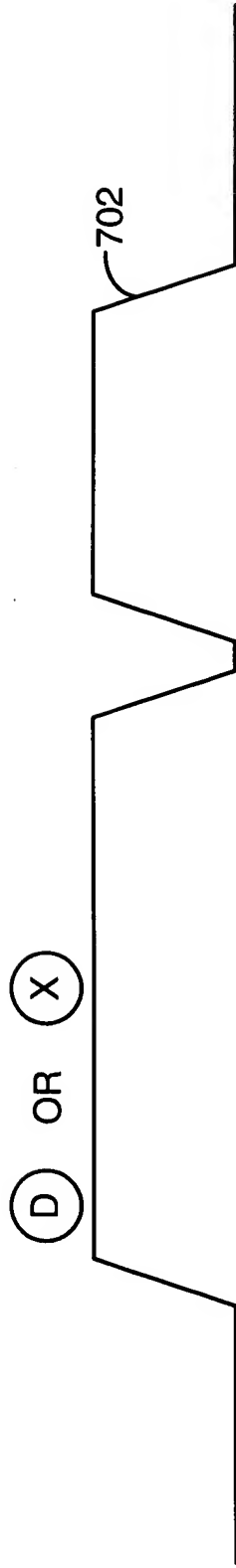


FIG. 7A

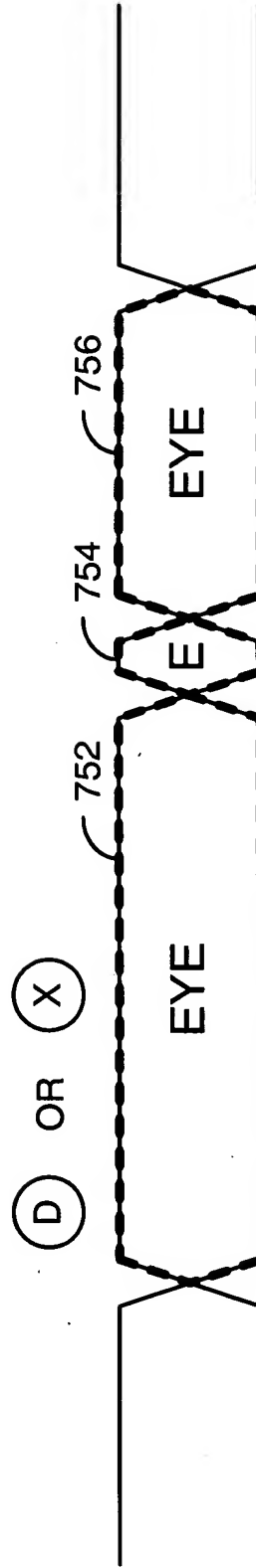


FIG. 7B

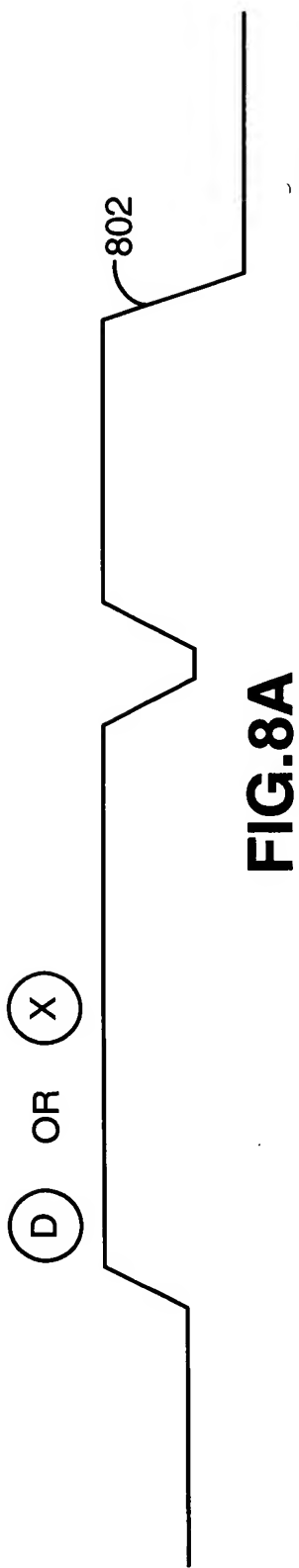


FIG. 8A

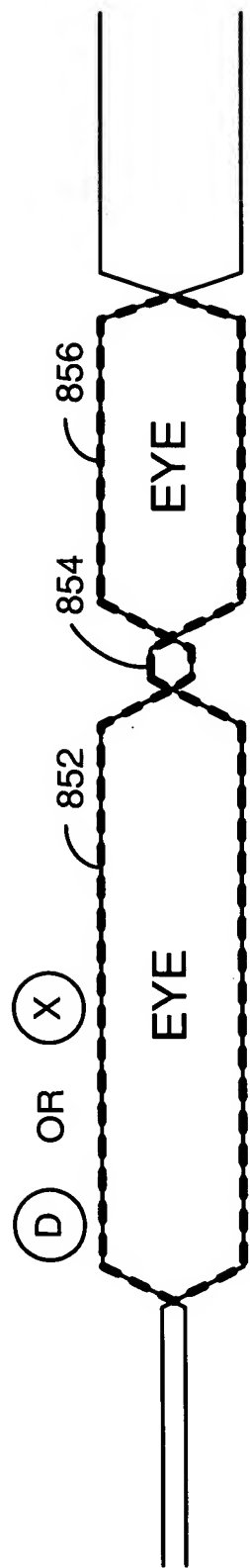
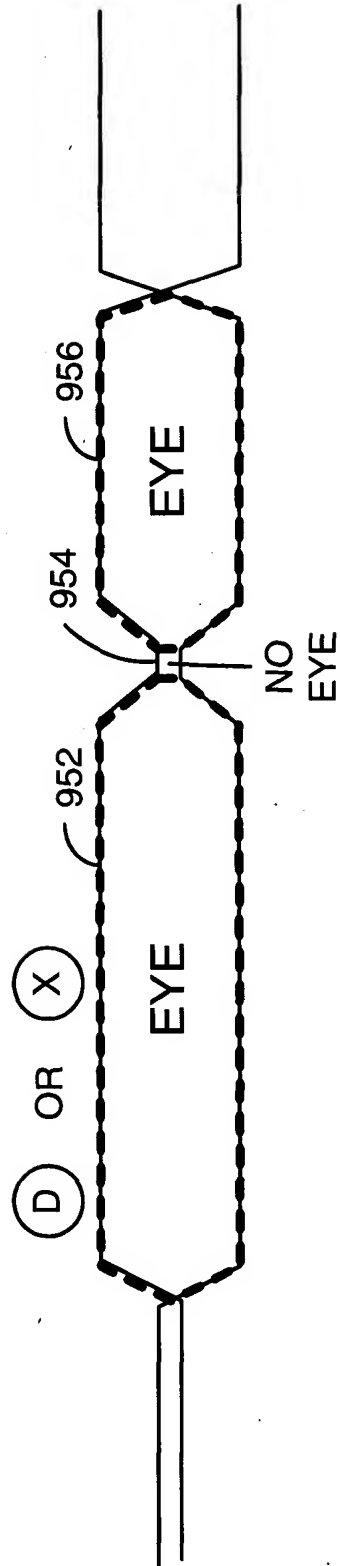
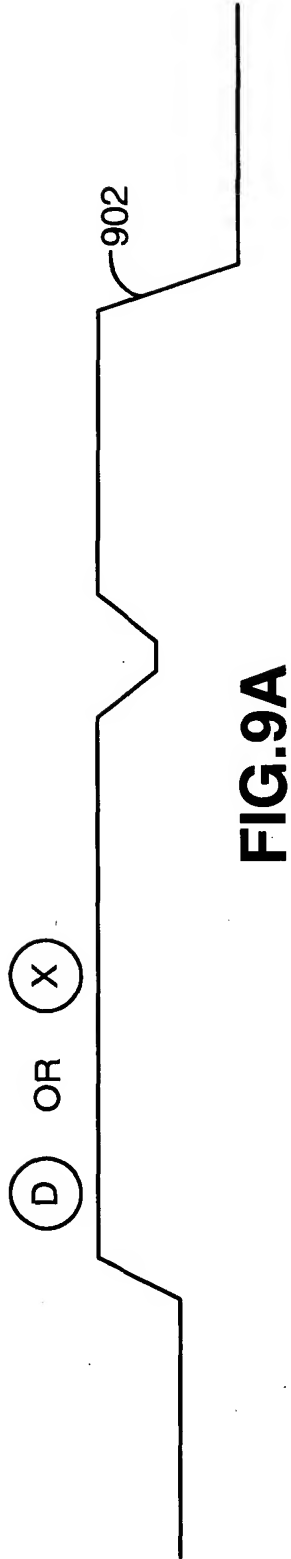
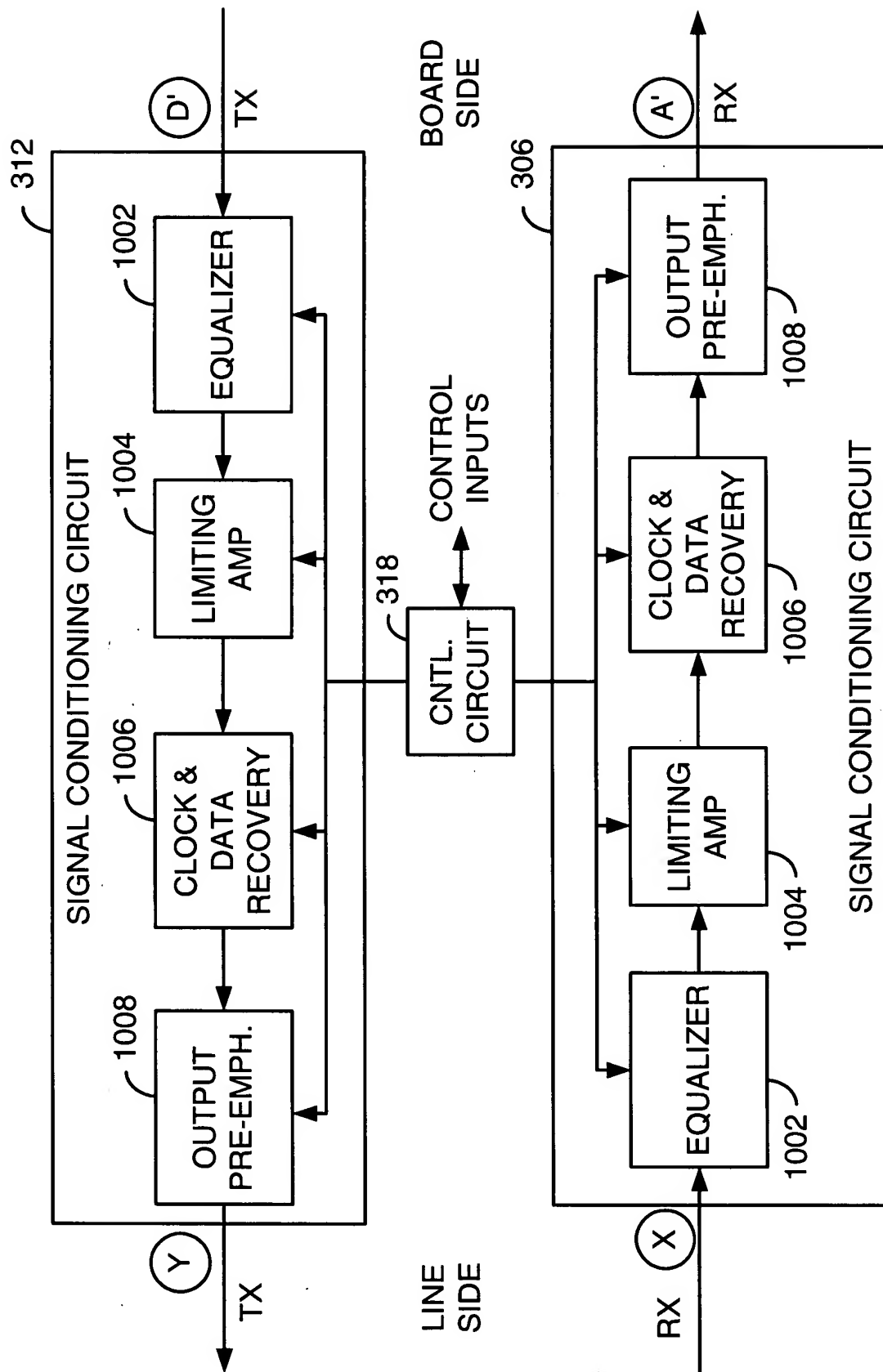
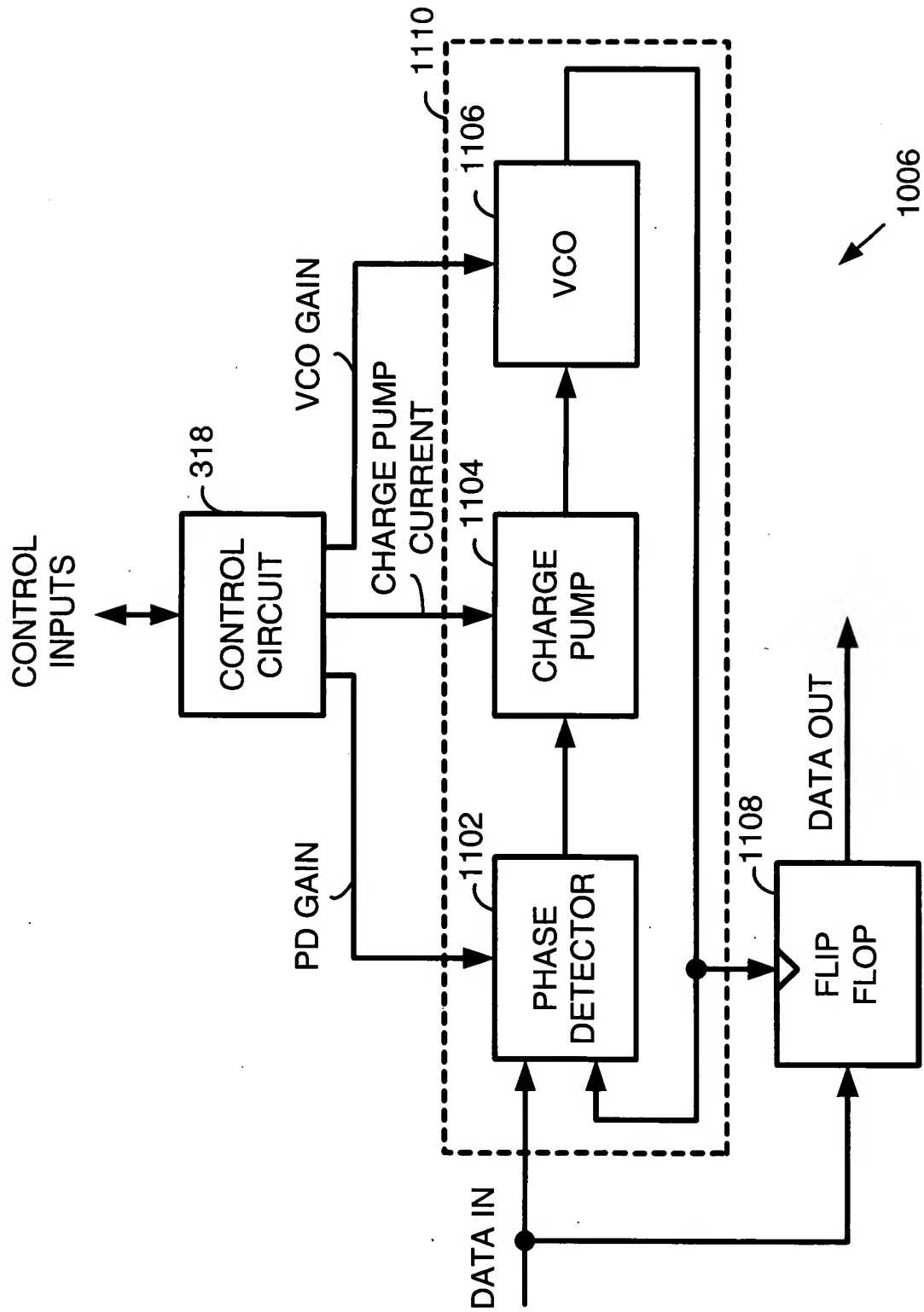


FIG. 8B



**FIG. 10**

**FIG. 11**

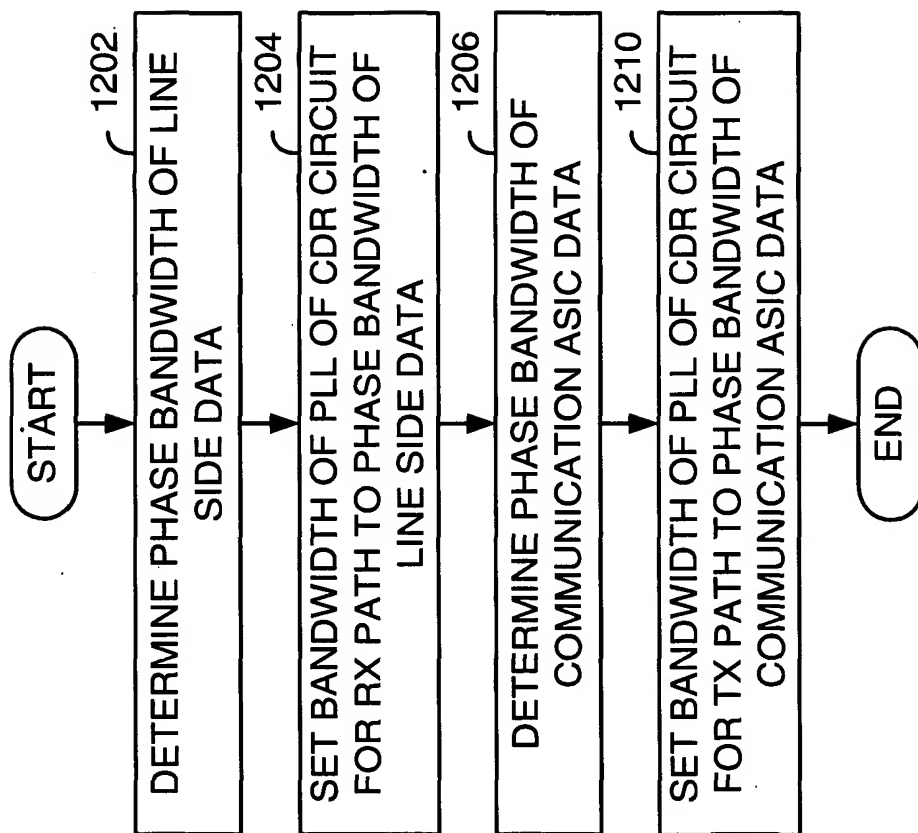
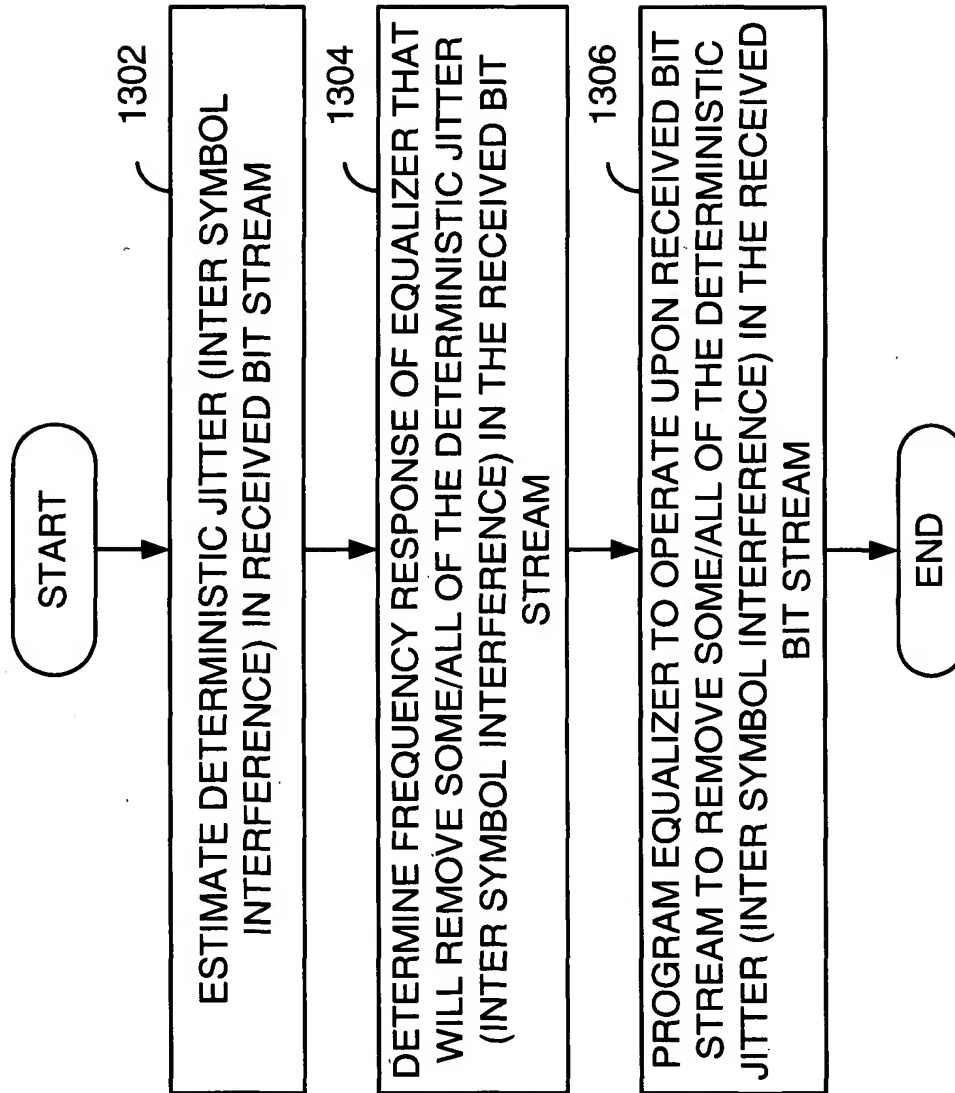


FIG. 12

**FIG. 13**

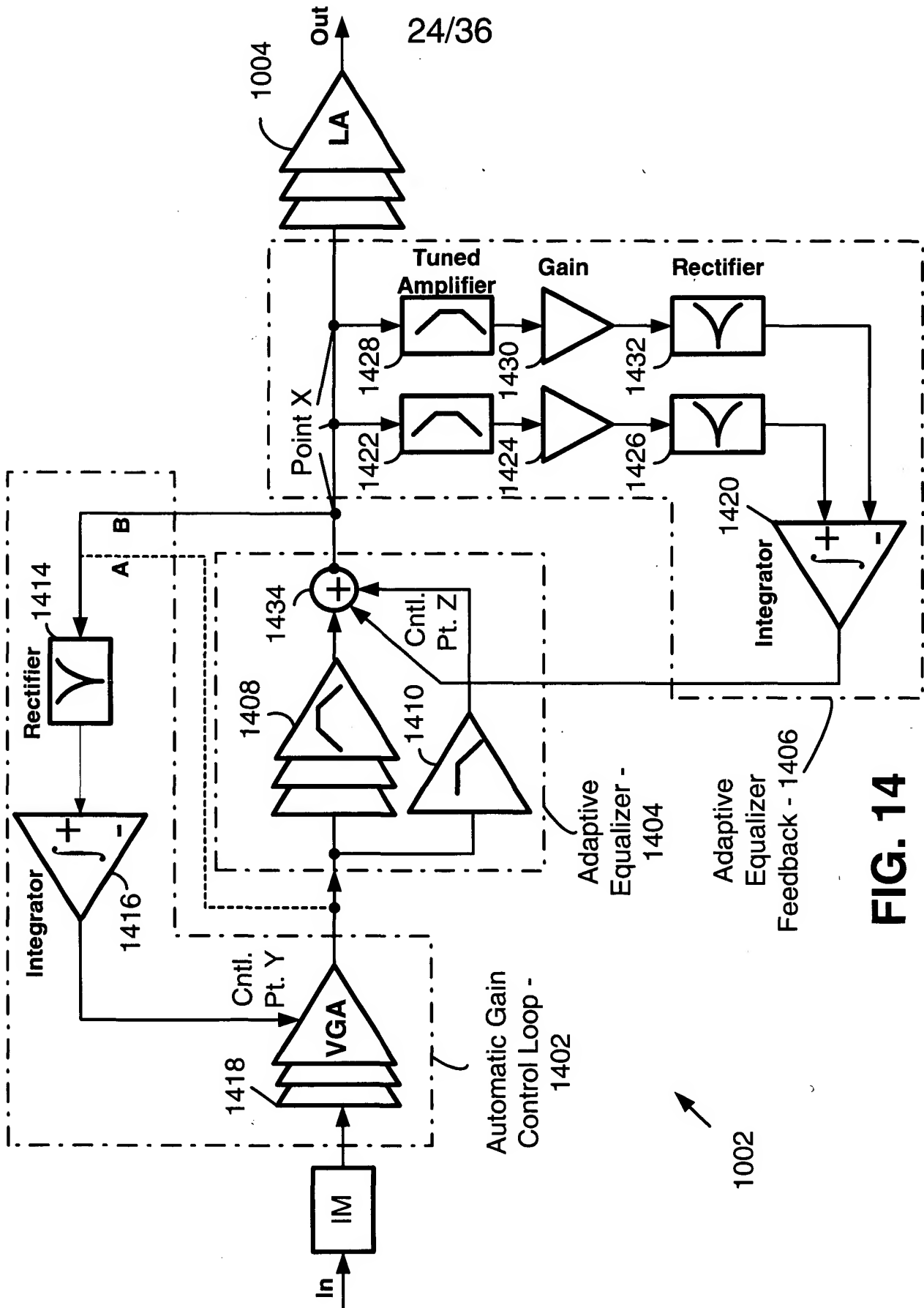


FIG. 14

24/36

1002

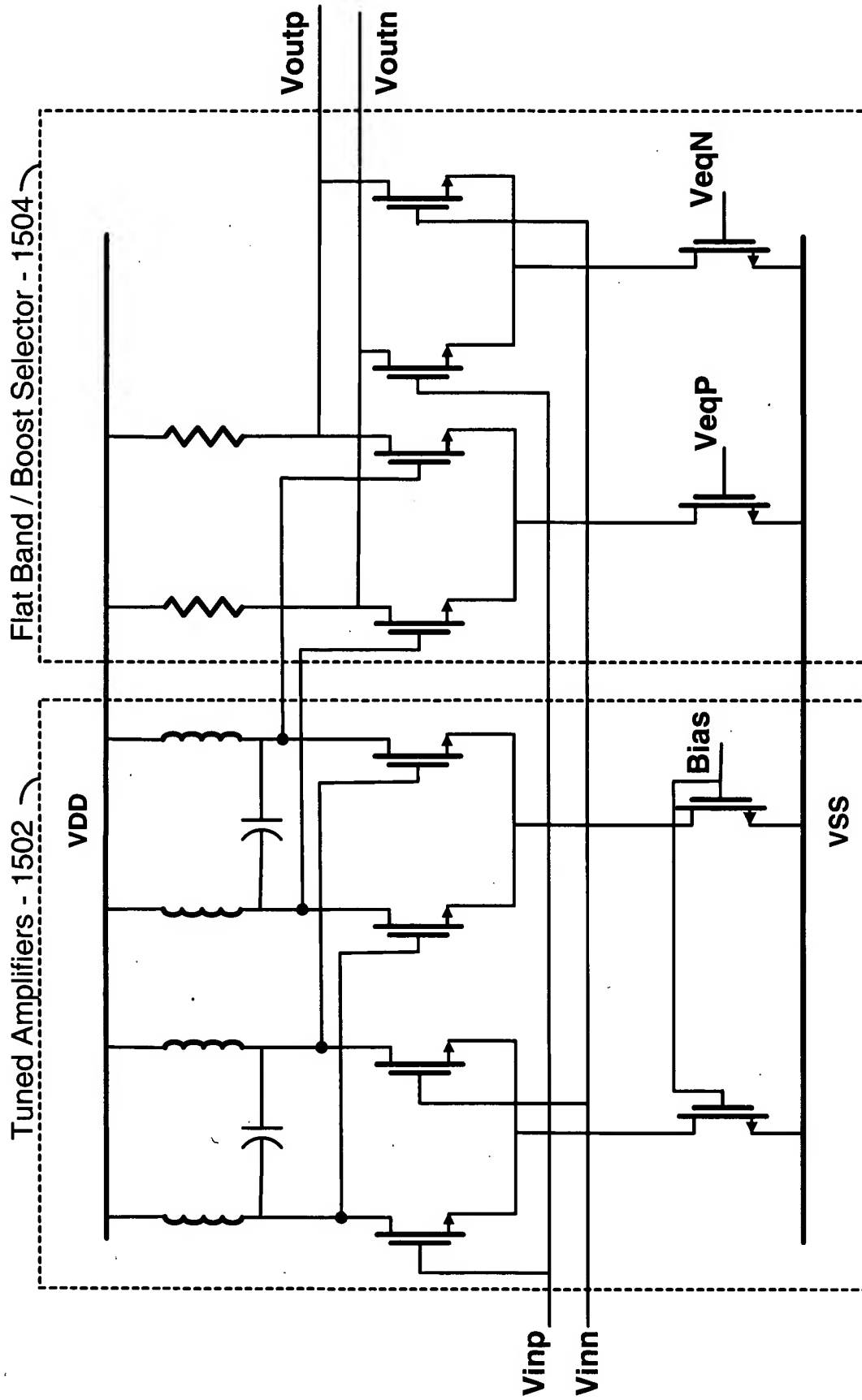


FIG. 15

1408

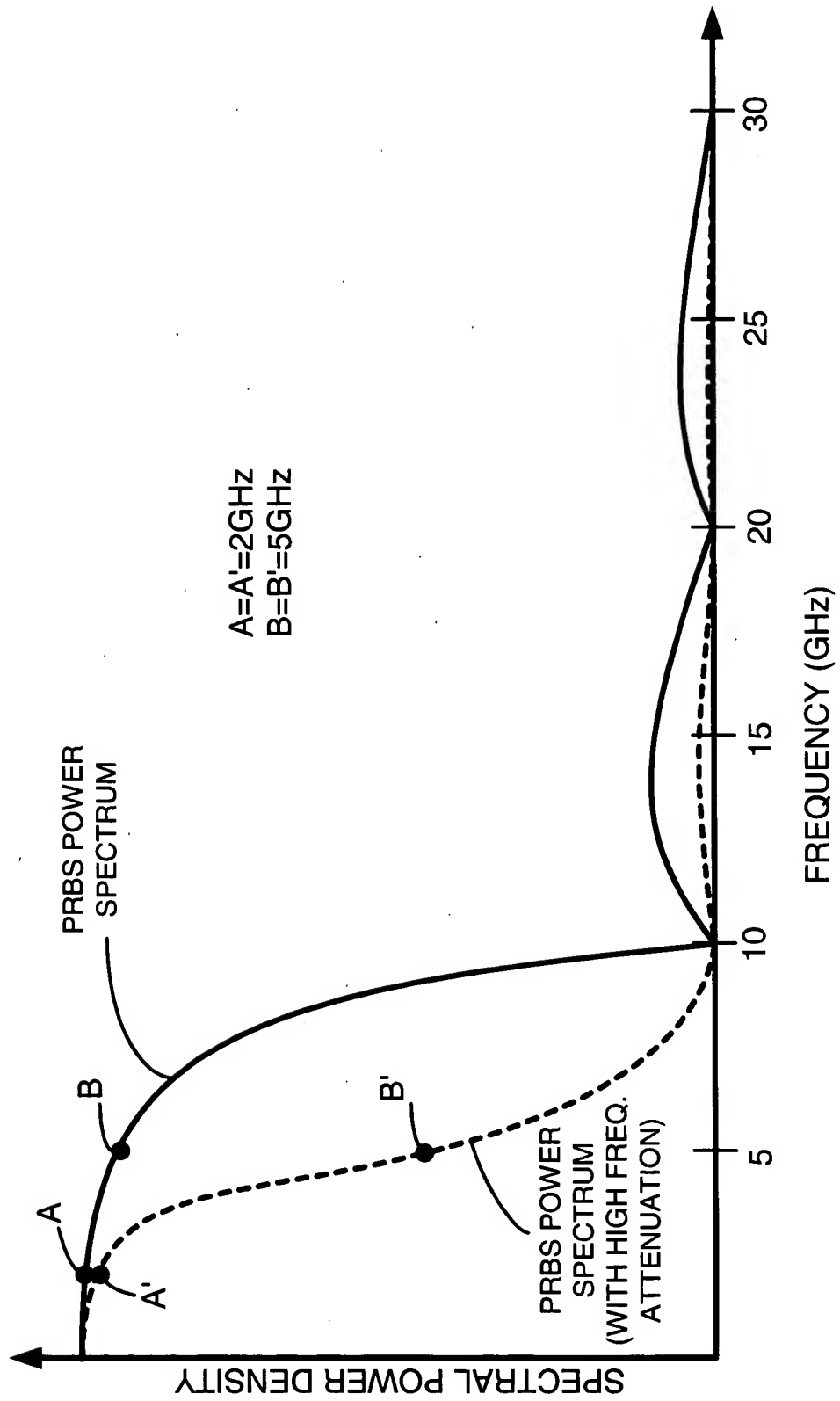
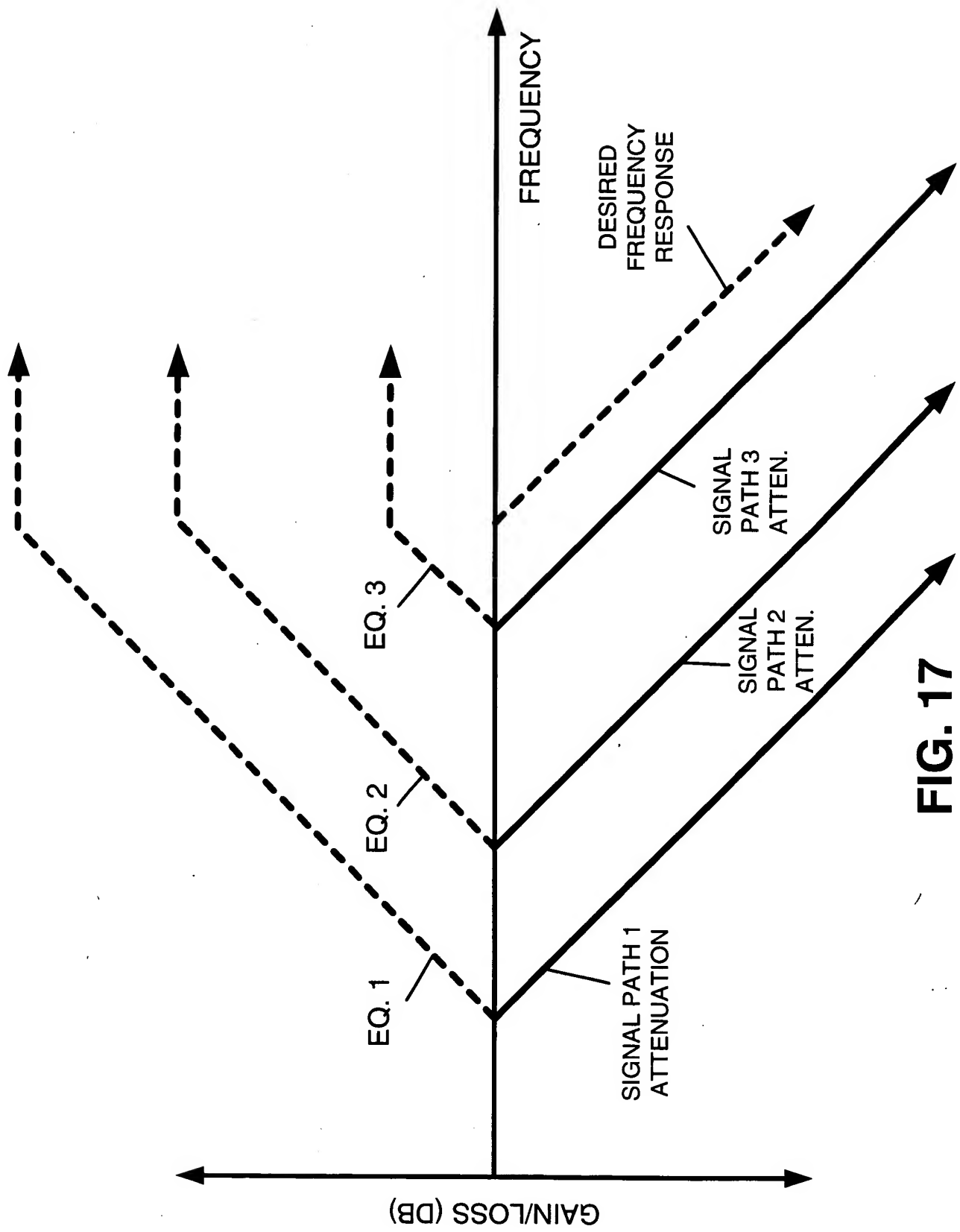
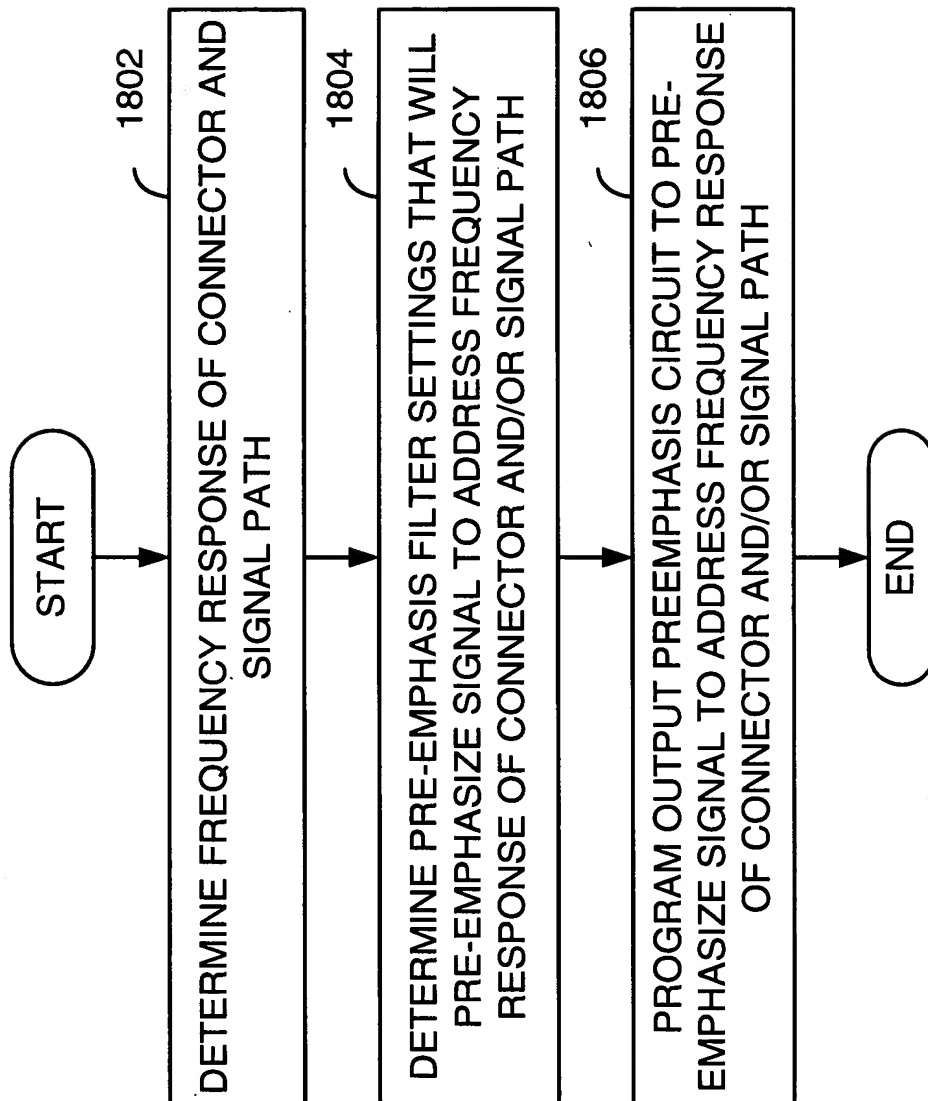


FIG. 16

**FIG. 17**

**FIG. 18**

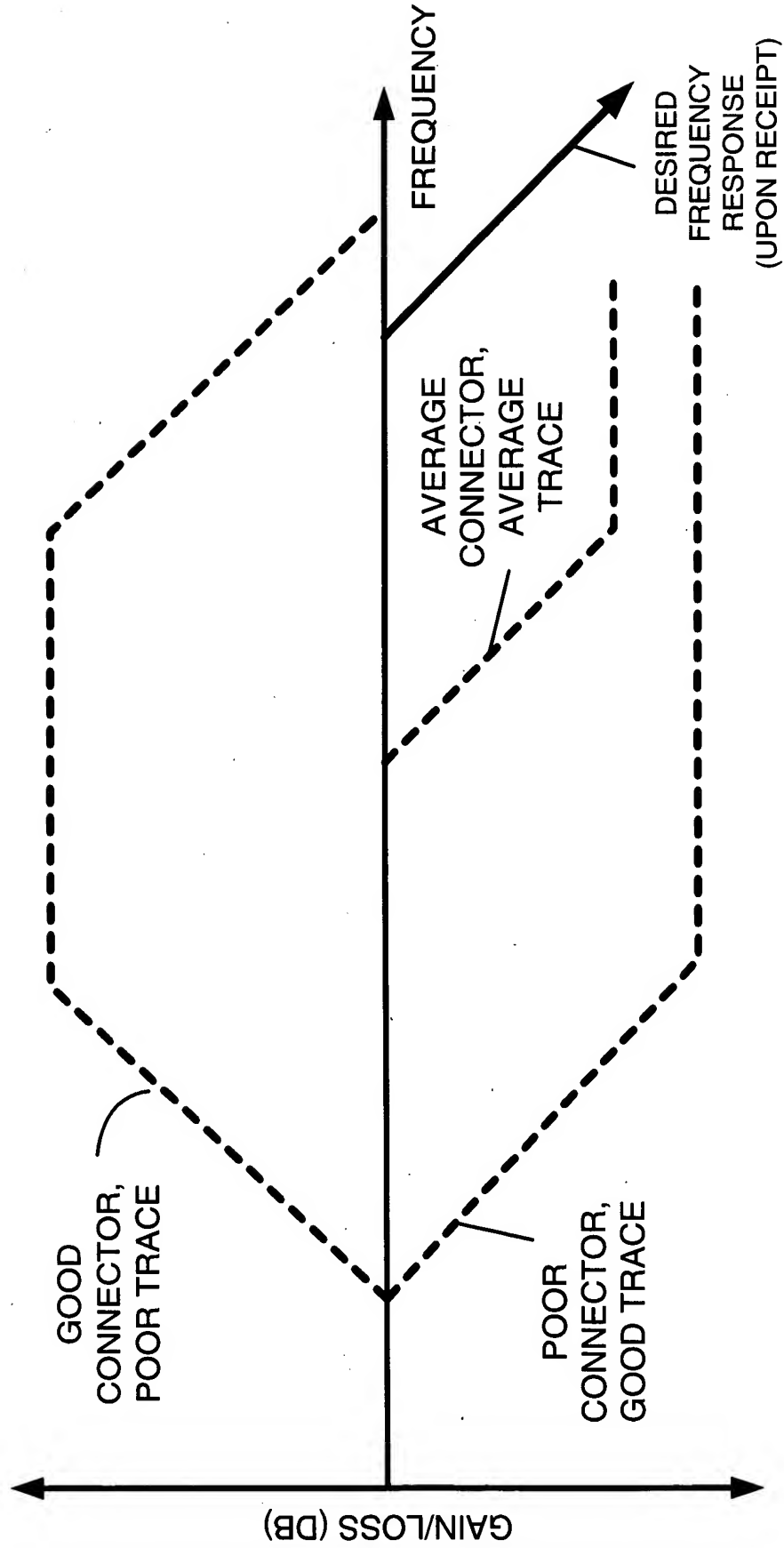
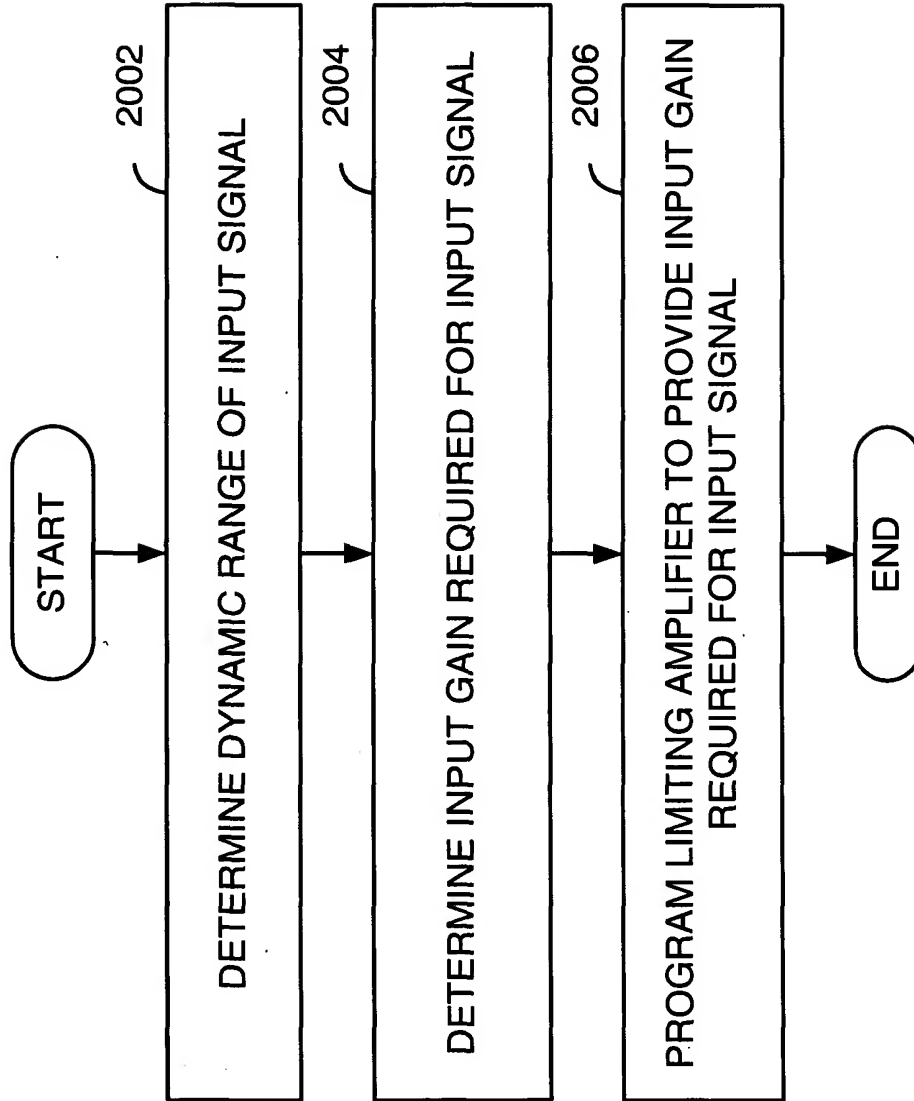


FIG. 19

**FIG. 20**

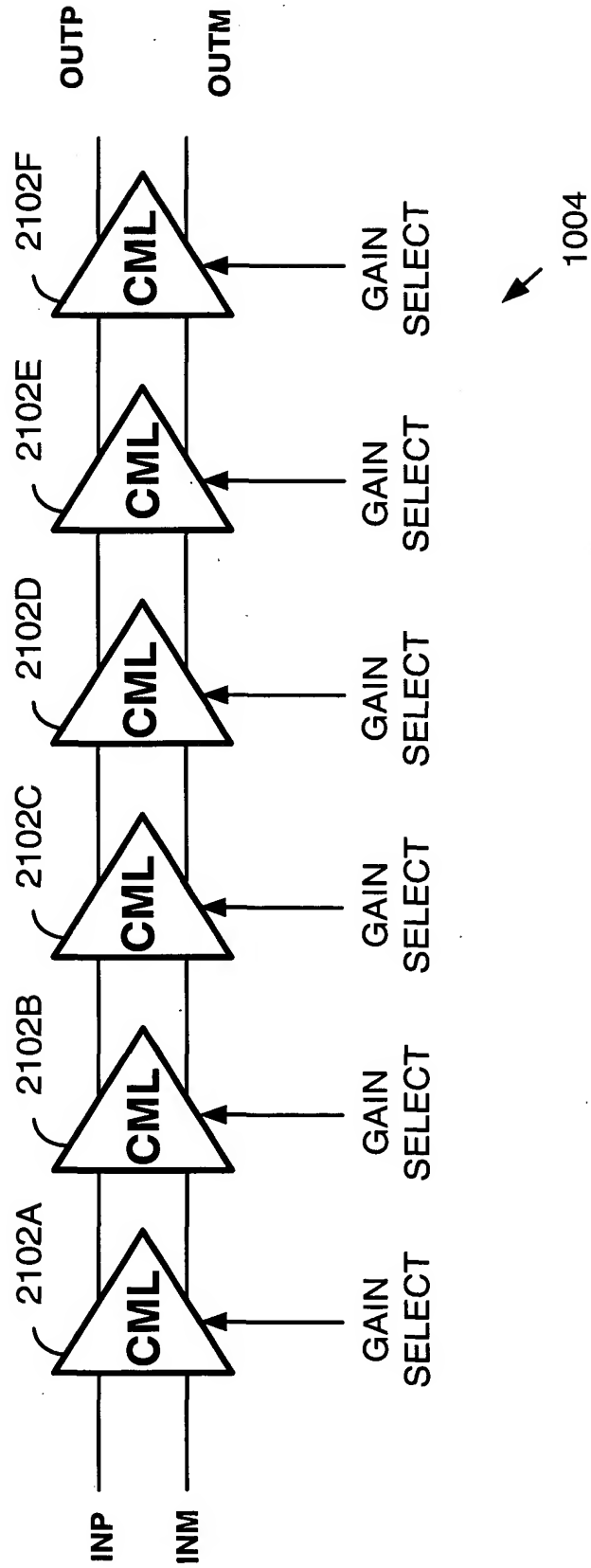


FIG. 21

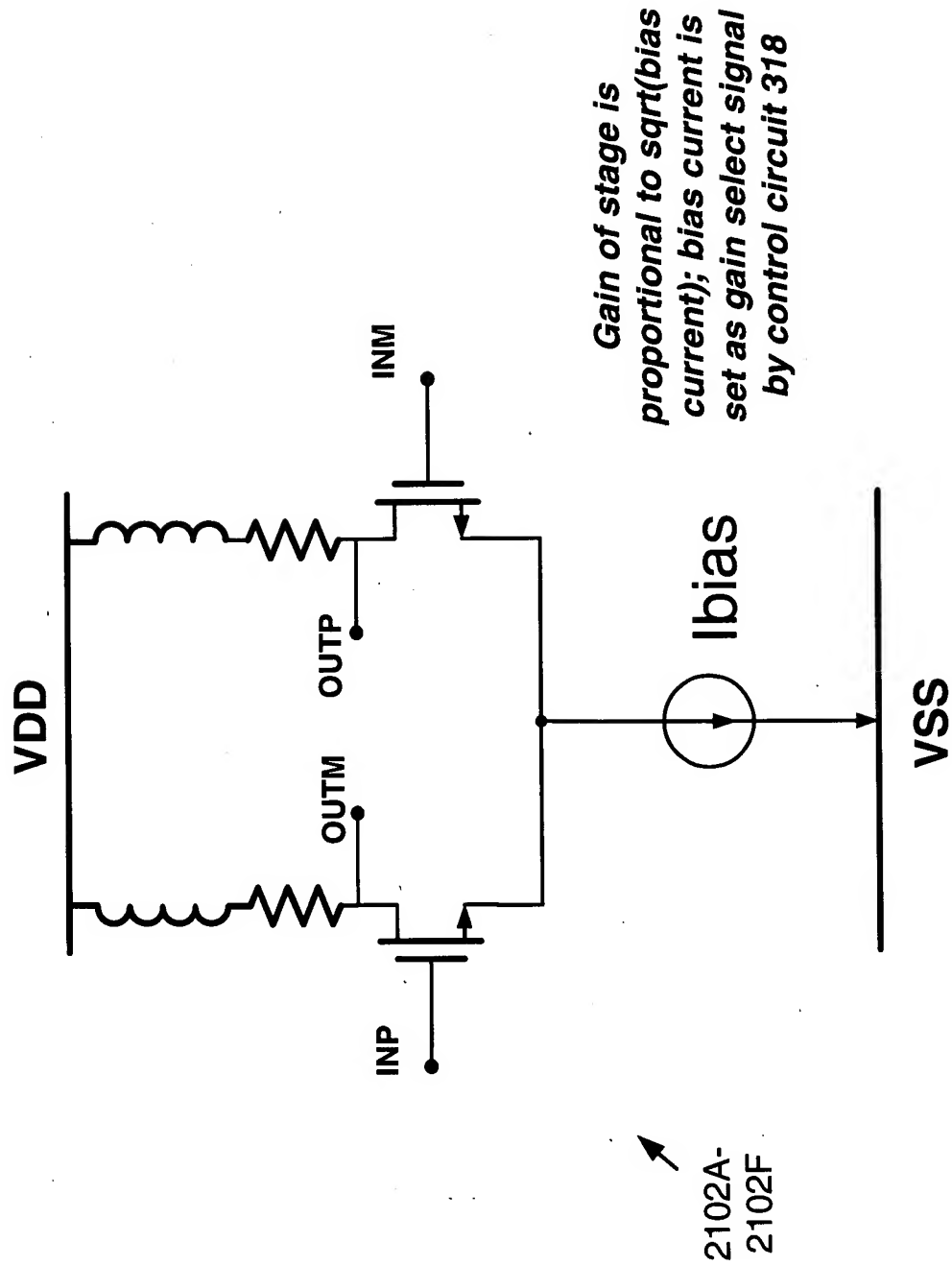


FIG. 22

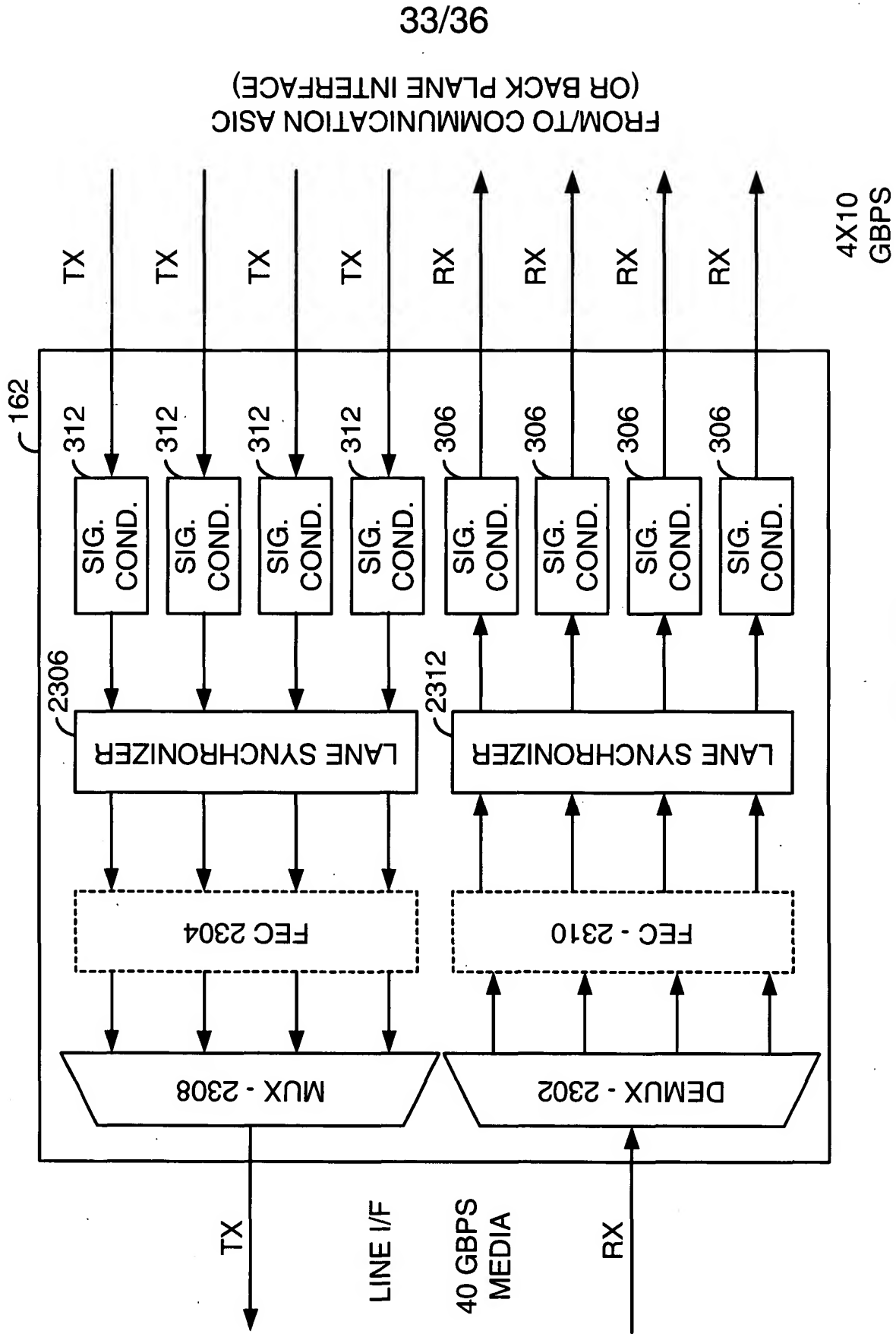
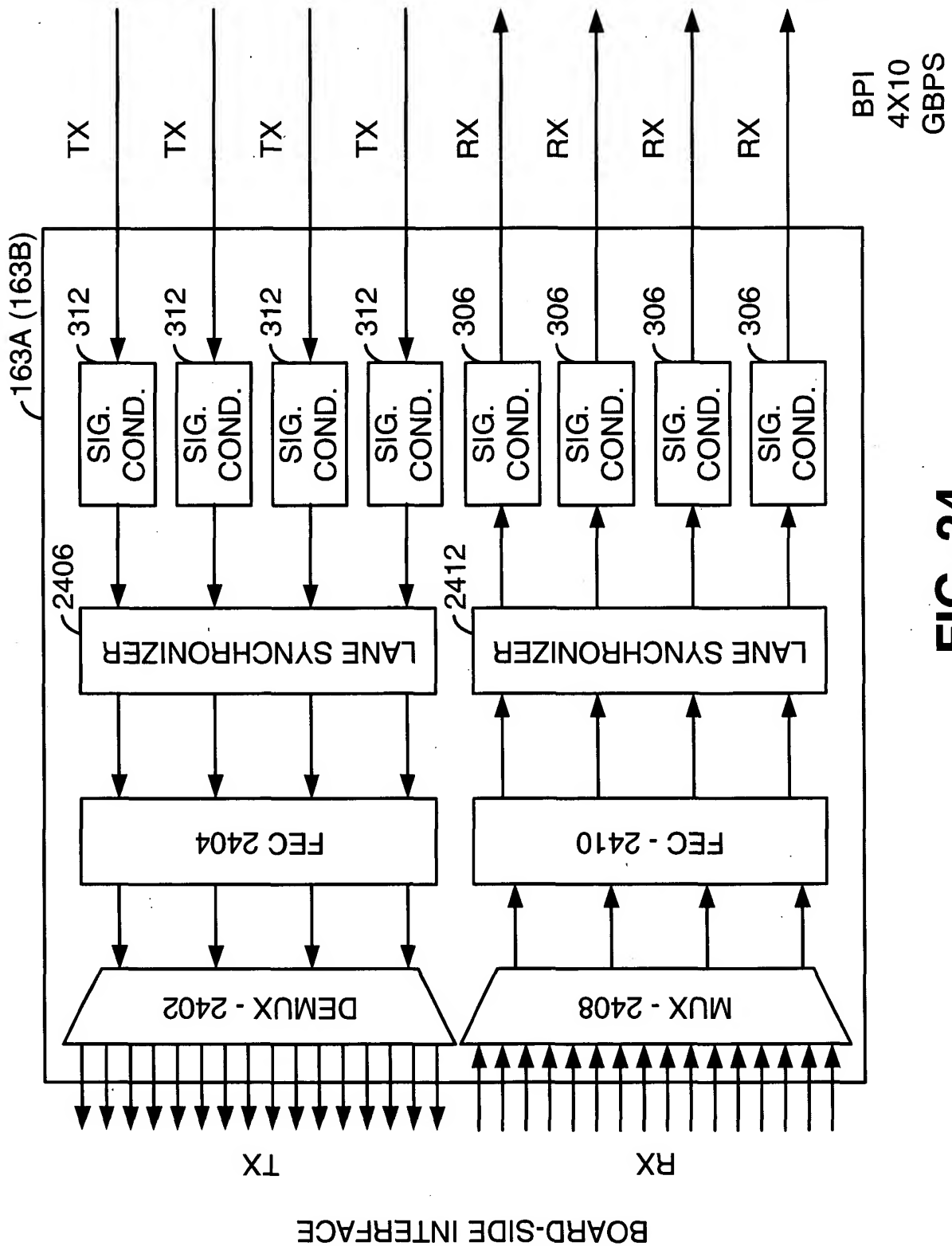


FIG. 23



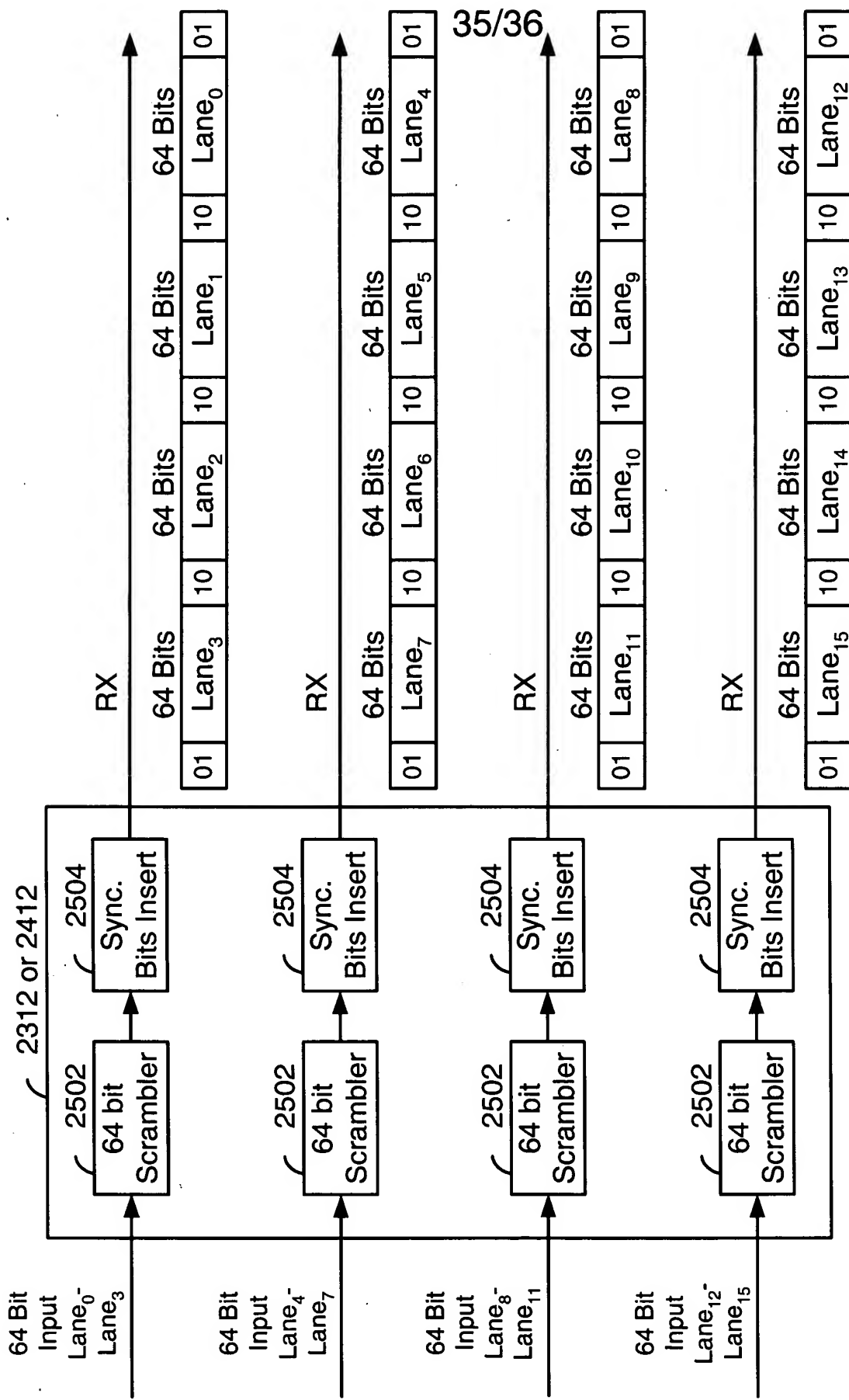


FIG. 25

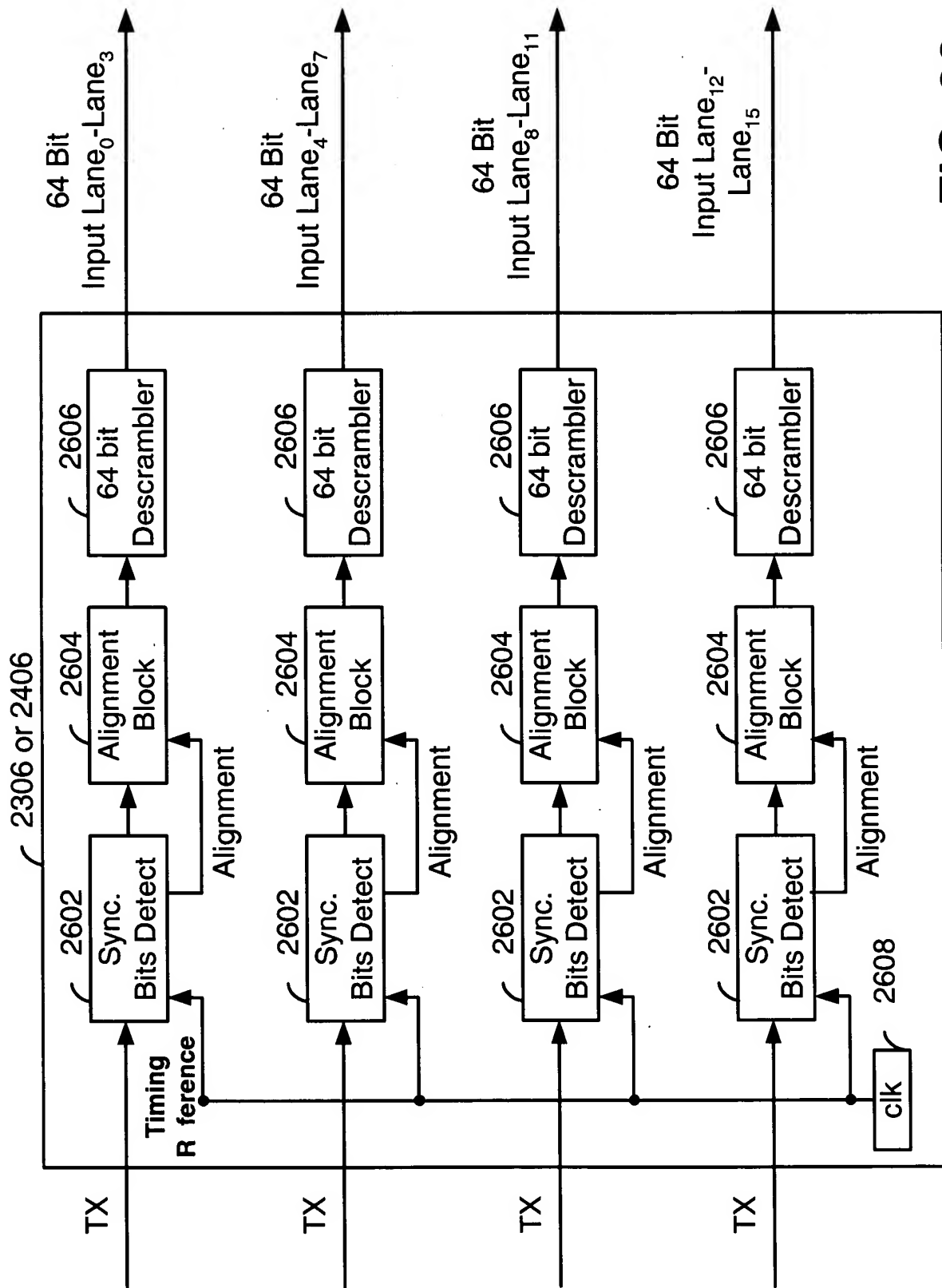


FIG. 26